BARBADOS.

DEPARTMENT OF AGRICULTURE.

REPORT

ON THE

SUGAR-CANE EXPERIMENTS

FOR THE SEASON BETWEEN

1922—1924.

PARTS I & II

Manurial Experiments with Sugar-Cane.

PART III

Experiments with Varieties of Sugar-cane.

BY

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CONDUCTED IN BARBADOS DURING THE SEASON 1922—1924.

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The Experiments are described in three parts, viz :—

Part I—Composition of Barbados rainfall.

Part II—Manurial and other experiments with sugar-canes.

Part III—Experiments with varieties of sugar-cane.

EXPLANATION OF TERMS USED IN THIS REPORT.

Per cent. by number of rotten canes is the number of rotten canes in 100 canes (good and rotten).

Sp. Gr. $\frac{30^\circ \text{ C.}}{16\cdot 6^\circ \text{ C.}}$ is the weight of a given volume of juice at a temperature of 30° Centigrade divided by the weight of an equal volume of water at a temperature of 16·6° Centigrade. A gallon of water at 16·6° Centigrade (i.e. 62° Fahrenheit) weighs 10 lb. ; the Sp. Gr. $\frac{30^\circ \text{ C.}}{16\cdot 6^\circ \text{ C.}}$ therefore serves to ascertain the volume of the juice from its weight or vice versa.

Per cent. of juice by mill is the number of pounds of juice expressed from 100 lb. of canes.

Quotient of purity is the number of pounds saccharose (cane sugar) in 100 lb. of the total solids in the cane juice.

Saccharose is the chemical name for pure cane sugar. It is the same as sucrose. Refined cane sugar is almost pure saccharose, containing when deprived of traces of water nearly 100 per cent. of saccharose.

Muscovado yield is the amount of muscovado sugar theoretically obtainable from the total saccharose in the juice estimated in tons. It is assumed that the juice has a high quotient of purity and will yield 80 per cent. of its saccharose as muscovado sugar.

The quotient of purity and the glucose ratio of a sample of juice influence greatly the recovery of marketable sugar. With a high quotient of purity and low glucose, a ratio common in the juice of the best varieties of West Indian sugar-cane, it is possible on a well worked muscovado estate with a steam pan and filter press to recover 80 per cent. of the weight of saccharose as marketable muscovado sugar, and in certain of the tables the muscovado yield is calculated on this basis. The recovery is less if the purity is lower and the glucose ratio higher, as is the case in immature canes, or in mature canes of some varieties or in canes over-matured.

PART I.

COMPOSITION OF BARBADOS RAINFALL.

The rainfall at Dodds was measured in the usual manner and fortnightly samples were analysed at the Government Laboratory. The amount, distribution and composition of the rainfall from December 1922 to May 1924 are given below. The total amount analysed was 50·21 inches and supplied approximately 109 pounds of chlorine and 7·104 pounds nitrogen per acre.

RAINFALL.

Amount, Distribution and Composition of the Rainfall at Dodds Botanic Station.

	Fall.		Parts per million of			
	Days.	Inches.	Chlorine	Nitrogen as Ammonia.	Nitrogen as Nitrate.	Nitrogen Total.
December 1922	13	3·58	13·0	·033	·164	·197
January 1923	17	3·40	19·5	·046	·201	·247
February ,,	14	2·05	16·5	·049	·536	·585
March ,,	13	1·54	25·0	·082	1·022	1·104
April ,,	11	1·12	21·0	·119	·984	1·103
May ,,	6	0·86	17·0	·152	1·281	1·433
June ,,	10	2·12	18·5	·056	·520	·576
July ,,	20	3·66	9·0	·061	·315	·376
August ,,	16	4·15	6·0	·017	·664	·681
September ,,	17	5·32	8·5	·018	1·053	1·071
October ,,	18	3·93	6·0	·039	·383	·413
November ,,	13	3·76	3·0	·074	1·008	1·082
December ,,	13	10·82	2·5	·148	·346	·494
January 1924	18	1·59	13·0	·039	·527	·566
February ,,	14	1·31	11·0	·122	·290	·412
(*a*) March ,,	3	·13	...	...	...	...
April ,,	6	1·00	18·0	·112	·854	·966
(*b*) May ,,	9	1·87	...	...	...	...
	231	52·21				

(*a*) March sample was insufficient for analysis.

(*b*) May sample was dirty and contaminated.

TABLE I. RAINFALL AT MANURIAL AND VARIETY EXPERIMENT STATIONS FROM DECEMBER, 1922, TO MAY, 1924.

Estates.	Height above sea level—feet.	December, 1922.		January, 1923.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		January, 1924.		February.		March.		April.		May.		Total.	
		Days.	Inches.	Days	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.
Dodds ..	210	13	3·58	17	3·40	14	2·05	15	1·54	11	1·12	6	0·86	10	2·12	20	3·66	16	4·15	17	5·32	18	3·93	13	3·76	13	10·82	18	1·59	14	1·31	3	0·13	6	1·00	9	1·87	231	52·21
Hampton ..	103	10	2·27	10	2·32	10	1·75	10	1·35	5	1·06	4	0·90	7	1·74	13	4·11	13	5·40	14	5·91	13	4·24	11	2·70	17	10·02	15	1·56	8	1·66	n	il.	7	0·98	13	3·27	189	51·24
Carrington ...	110	10	2·23	13	2·73	11	2·36	13	1·60	10	1·41	10	0·89	9	2·09	14	4·18	15	5·94	15	5·62	16	4·25	15	3·46	16	9·61	13	2·02	11	1·69	1	0·14	7	1·00	13	3·33	207	54·55
Brighton ...	271	7	2·90	10	2·03	8	1·84	9	1·69	8	1·59	7	0·96	6	2·09	8	4·18	10	4·87	13	5·85	14	4·10	10	4·56	13	6·73	10	1·31	6	1·69	1	0·12	7	1·09	9	2·34	156	49·94
Hannays ..	183	8	2·62	13	2·78	8	2·24	7	1·12	9	1·45	6	0·73	8	2·00	17	4·86	10	5·44	17	7·98	14	4·99	13	3·36	16	7·93	9	1·60	11	2·00	2	0·08	5	0·60	6	2·18	179	53·96
Coverley ...	254	9	2·88	10	2·57	7	2·03	5	1·06	8	1·53	4	0·32	6	1·85	16	4·51	11	4·82	10	6·50	10	5·95	11	1·73	9	5·08	13	2·98	6	1·90	1	0·20	4	0·39	7	1·11	147	48·60
Waterford ...	186	10	1·79	11	1·15	12	1·14	15	0·90	10	1·26	3	0·35	6	1·27	18	3·32	13	4·52	15	5·26	14	4·93	12	3·76	11	3·89	18	1·54	13	1·60	1	0·08	4	0·59	7	1·11	193	38·46
Pickerings ..	71	12	4·39	14	2·25	16	2·58	8	1·03	6	0·80	6	0·75	6	2·94	16	4·92	11	2·32	15	4·40	12	2·19	11	4·08	15	5·91	18	3·13	14	1·54	2	0·06	4	1·32	12	1·17	198	45·78
Clifton Hall ...	702	10	4·03	16	2·99	10	1·93	11	2·10	7	1·31	6	0·59	8	3·48	14	4·67	10	4·65	12	3·47	9	5·47	9	3·55	16	8·26	16	2·47	11	1·81	n	il.	8	1·46	11	2·73	184	54·97
Henley ..	553	11	4·45	20	3·82	12	2·68	13	2·46	10	1·25	6	1·48	12	2·77	19	6·51	16	4·12	16	4·50	18	4·37	13	3·51	16	9·28	20	1·78	14	2·75	1	0·02	7	1·15	8	1·88	232	58·78
Lemon Arbor...	720	13	5·00	18	3·71	12	3·11	14	2·12	8	1·78	3	1·13	8	3·40	19	7·55	12	4·19	14	3·41	16	6·01	15	5·12	23	11·11	21	2·76	14	2·41	1	0·03	4	0·93	8	2·19	243	65·96
Vaucluse ...	731	11	3·61	18	3·44	9	2·40	12	2·22	8	1·18	3	0·41	9	3·00	16	6·42	12	4·96	17	4·68	12	4·51	13	5·16	18	9·16	16	3·37	14	2·40	1	0·12	6	1·02	6	1·93	201	59·99

PART II.

MANURIAL AND OTHER EXPERIMENTS WITH THE SUGAR-CANE.

The manurial experiments were carried out in Lower Bay Tree field at Dodds which is situated in the parish of St. Philip, ten miles from Bridgetown at an elevation of 210 feet above sea-level. They consist of twenty-six plots of one-twentieth of an acre each. The rows of canes are six feet apart and the clumps of canes six feet apart in the rows. Each plot, therefore, consists of sixty clumps of canes and the experiments cover an area of approximately 1½ acres.

The chemical analysis of the soil, which is what is called in Barbados a "Black Soil" has been given repeatedly in previous reports so that it is omitted this year. It may, however, be stated that this soil when first analysed many years ago contained a comparatively moderate proportion of calcium carbonate and was poor in nitrogen, phosphoric acid and potash, in which respect it is distinctly below the average of Barbados soils.

Soon after the canes were cut in 1922, the old stools were dug out, the cane holes dug two feet square, and where possible, one foot deep and all larvae, pupae and imagoes of the root borer (*Diaprepes Abbreviatus*, Linn.) and the brown hard-back (*Phytalus smithi*, Arrow) found, were killed. The plots were then planted with woolly pyrol, which was pulled up on September 20, 1922 and placed in the cane holes. On the woolly pyrol, after it had withered, farmyard manure was applied at the rate of twenty tons per acre and the whole covered with the soil obtained from a cane hole dug on the north side of the manure. At the same time an additional twenty tons of farmyard manure were applied per acre to Plot B. 1, making a total of forty tons to that plot. The whole field was then subsoiled in each bank in a northerly and southerly direction, and planted on November 23rd, 1922 with top cuttings of the B. H. 10 (12), after they had been soaked in Bordeaux mixture for ten minutes.

WEATHER.

The rainfall for November and December 1922 and January 1923 was 15·17 nches which was just about normal, being only ·55 inches less than the average for the island for the seventy-seven years ending 1923. As this was sufficient for the needs of the sugar cane cuttings on the experiment plots they germinated satisfactorily. Unfortunately, however, the rainfall for the year 1923 was much below the average, being only 40·99 inches as compared with 60·49 inches for the average of the island for the seventy-seven years mentioned above. The result was that at the end of 1923 the condition of the sugar-canes on the experiment plots was below the average, but, as there were some showers during the first four months of 1924, they improved considerably.

ANALYSIS OF MANURE.

The following is the analysis of a sample of the farmyard manure applied to Lower Bay Tree field on September 28, 1922, while that field was in the course of preparation.

Moisture	24·01
*Organic matter, etc.	45·61
Insoluble siliceous matter	15·02
†Phosphoric anhydride	0·78
‡Alkaline salts, Lime, Magnesia, etc. ...	14·58
	100·00
*Containing nitrogen	0·39
Equal to ammonia	0·47
†Equal to tricalcium phosphate	1·70
‡Containing potash	0·39
Equal to sulphate of potash	0·72

Twenty tons of this manure supplied per acre 175 lb. of nitrogen, 349 lb. of phosphoric anhydride (equal to 762 lb. tricalcium phosphate) and potash 175 lb.

APPLICATION OF MANURES.

The experiments were directed as in former years with a view of ascertaining the effect of the application of farmyard manure in ordinary quantity, and in double the ordinary quantity; also of nitrogen, of phosphates, and of potash, upon the industrial yields of the sugar-cane.

The chemical fertilizers were applied as follows:—

Phosphates and potash on January 24th and nitrogen on February 9th, 1923. The second application of phosphates, potash and nitrogen was made on June 18th, 1923.

The following table gives the composition per cent. of the chemical manures employed on the manurial experiments, 1922–1924 :—

	Nitrogen.	Phosphates.			Potash.
		Soluble.	Reverted.	Insoluble.	
Sulphate of ammonia ...	20·36 20·50	...	...	...	...
Nitrate of soda ...	16·11	...	..	...	...
Dried blood	12·50	...	...	...	...
Superphosphate of lime...	...	25·08	4·11	...	...
Basic slag	...	...	..	37·56	...
Sulphate of potash ...	...	...	..	...	47·02 50·86

Wherever in this report quantities of canes or sugar or of manure applied are mentioned, per acre is understood unless stated to the contrary.

The experiments may be divided as follows :—

Farmyard manure only, 20 tons.
Farmyard manure, 20 tons extra.

Nitrogen series.
- Minerals only.
- Minerals and nitrogen as sulphate of ammonia.
- Minerals and nitrogen as nitrate of soda.
- Minerals and nitrogen as dried blood.

Phosphate series.
- Nitrogen and potash only.
- Nitrogen, potash and superphosphates.
- Nitrogen, potash and basic slag.

Potash series.
- Nitrogen and phosphate only.
- Nitrogen, phosphate and potash.

Owing to the low fertility of Lower Bay Tree field which obtained in 1885 when the manurial experiments were first started, the whole of the plots have received annually farmyard manure at the rate of twenty tons (approximately 800 cubic feet) per acre every other year for the past thirty-three years. In addition, one plot received an extra twenty tons of farmyard manure, equal to forty tons per acre every other year. In the nitrogen series, in addition to the twenty tons of farmyard manure each plot received eighty pounds of assimilable phosphate as superphosphate of lime and sixty pounds of potash as sulphate of potash. One plot received nothing further, and the remaining plots varying quantities of nitrogen as sulphate of ammonia, nitrate of soda and dried blood. In the phosphate series, in addition to the twenty tons of farmyard manure, each plot received sixty pounds of nitrogen as sulphate of ammonia and sixty pounds of potash as sulphate of potash. One plot received nothing further. Five plots received varying quantities of phosphates as superphosphate of lime, and two plots received basic slag, one at the rate of eighty pounds and the other at the rate of 100 pounds of phosphate per acre. In the potash series, in addition to the twenty tons of farmyard manure, each plot received eighty pounds of assimilable phosphates as superphosphate of lime and sixty pounds of nitrogen as sulphate of ammonia. One plot received nothing further. The remaining plots received varying quantities of potash as sulphate of potash.

The results are given in Tables II to V. As will be seen therefrom, the results again this year from a number of the plots are so different from those of previous years before the advent of the root borer *(Diaprepes abbreviatus,* Linn*)* and the brown hardback *(Phytalus smithi,* Arrow*)* which are now doing so much injury to the sugar-canes, (not only on the lands of the Government Industrial Schools where the manurial experiments are carried on, but in many other districts of the island) and are so conflicting that it is impossible to draw any definite conclusions from them. It will, however, be noticed that in spite of the fact that more root borer and brown hardback were collected on the lands of the manurial plots this year than the last time the experiments were carried out on the same field, the slightly better rainfall seems to have, to some extent, mitigated the effects of the pests. However, to give a few instances of what appear to be due to the attacks of the root borer and brown hardback, we may mention that as will be seen in the nitrogen series plot A.6, which

received 80 lb. of phosphate as superphosphate of lime, 60 lb of potash as sulphate of potash and 80 lb. of nitrogen as sulphate of ammonia in June yielded 8,870 lb. saccharose per acre while plot A. 4 which received the same quantities of phosphates and potash but only 60 lb. of nitrogen as sulphate of ammonia yielded 9,388 lb. saccharose per acre, i.e. 518 lb. of saccharose per acre more than plot A. 6. In this instance on plot A. 6, 3,927 root borer and brown hardback were collected, while in plot A. 4 only 2,837 root borer and brown hardback were found. To give another instance in the nitrogen series plot B. 7 received 80 lb. of phosphate as superphosphate, 60 lb. of potash as sulphate of potash and 40 lb. of nitrogen as dried blood and yielded 9,646 lb. saccharose per acre. Plot B. 5 received the same quantities of phosphates and potash and 60 lb. nitrogen as dried blood and yielded 7,382 lb. of saccharose per acre, i.e. 2,264 lb. of saccharose per acre less than plot B. 7. In this case 4,568 root borer per acre were collected from plot B. 7 while 6,899 were collected from plot B. 5.

In the potash series plot A.10 received 80 lb. of phosphates as superphosphate of lime, 60 lb. of nitrogen as sulphate of ammonia and 40 lb of potash as sulphate of potash and yielded 9,873 lb. of saccharose per acre. Plot A. 5 received the same quantities of nitrogen and phosphates in the same forms and 60 lb of potash as sulphate of potash and yielded 8,537 lb. of saccharose per acre, i. e. 1,336 lb. of saccharose less than plot A.10. In this case 3,463 root borer and brown hardback were collected from A.5 while only 2,766 were found in plot A. 10. We think that we have already written sufficient to show that the attacks of the root borer and brown hardback injuriously affect the yield of sugar and so render the results of the manurial experiments of considerably less value than if they had not been present. It should, however. be noted that in spite of the attacks of the two pests and the low rainfall during 1923 the yield of the sugar-canes on the manurial plots was satisfactory, the average yield for the twenty-six plots being 32·36 tons of sugar-canes per acre. Had these sugar-canes been worked up in a properly equipped factory these 32·36 tons of sugar canes would have been, according to Douglas' modified formula, equal to 4·856 tons of 96 dark crystal sugar. The formula referred to above is as follows:—Tons of canes x saccharose pounds per imperial gallon of juice x quotient of purity x the factor. ·80 ÷ the specific gravity of the juice x 1000.

Before the plots to which the different manures were applied were reaped, certain of the canes were seen to be withering amounting altogether to sixty-four stools. These were cut and weighed separately and are not included in the weights given in Tables II to V. From around and in the basal portions of these sixty-four stools, 309 larvae of the root borer and brown hardback were obtained. As soon as the remainder of the plots were reaped the basal portions of each stool were also dug up, cut into pieces and the larvae, where present in or around such basal portions, killed. At the same time, the old cane holes were dug out two feet square and where possible, one foot deep, and all the larvae found, killed. The numbers of the root borer and the brown hardback larvae so found are given in Table VI.

The numbers of larvae of the root borer and the brown hardback found in each plot for the year under review, and also for the years 1918-1924 are also given in Table VI. As will be noted from the Table there was a considerable increase in the number of the two pests for the season under review as compared with the number found the last season when the manurial experiments were carried out in this field. Whether this is due to want of care in collecting the beetles or whether, as has been found in other countries where similar beetles exist, viz., that as a rule the better the rainfall the greater the number of beetles found, it is impossible to say.

TABLE II. PLANT CANES.

DODDS PLN. : LOWER BAY TREE FIELD.

Nitrogen Series.

{*Farmyard manure*, 20 tons.
Nitrogen.
Phosphate as superphosphate, 80 lb. in January.
Potash as sulphate, 60 lb. in January.

Number of Plots.		Applied in 1923.		No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. of juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Difference by manuring.			*Diapreps abbreviatus* per acre.	*Phytalus smithi* per acre.	*Diapreps abbreviatus* and *Phytalus smithi* per acre.
		February.	June.		Produce.	Cane tops.	Canes.			Sp. Gr. 30° C. / 16·6° C.	Lb. per gallon. Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.			Produce, tons per acre.	Canes, tons per acre.	Saccharose, lb. per acre.			
		lb.	lb.																				
A 1	No chemical manure	...	...	21,781	35·14	7·15	27·99	6·51	57·75	1·0888	2·18	·069	·171	90·1	3·2	3,326	7,251	...	...	..	4,033	618	4,651
B 1	Farmyard manure, 20 tons extra.	..	...	21,491	33·95	5·55	28·40	3·96	60·50	1·0897	2·21	·052	·178	90·6	2·4	3,534	7,810	−1·19	+ ·41	+ 559	6,072	807	6,879
A 2	No nitrogen	..	...	20,659	34·46	6·13	28·33	1·68	57·75	1·0915	2·25	·052	·188	90·4	2·3	3,358	7,556	− ·68	+ ·34	+ 305	2,139	713	2 852
A 3	40 lb. nitrogen as sulphate of ammonia	„	...	40	19,616	37·42	5·89	31·53	1·52	56·50	1·0906	2·25	·045	·175	91·1	2·0	3,659	8,233	+2·28	+ 3·54	+ 982	2,293	361	2,654
A 4	60 lb.	„	„	„	„	...	60	20,922	40·45	4·80	35·65	2·89	58·00	1·0902	2·21	·063	·177	90·2	2·9	4,248	9,388	+5·31	+ 7·66	+ 2,137	2,608	229	2,837
A 6	80	„	„	„	„	...	80	21,633	38·45	6·59	31·86	2·94	60·50	1·0906	2·24	·050	·180	90·7	2·2	3,960	8,870	+3·31	+ 3·87	+ 1,619	3,890	127	3,927
B 3	40	„	„	„	„	15	25	18,590	38·42	7·06	31·36	2·01	59·00	1·0933	2·30	·063	·177	90·6	2·7	3,791	8,719	+3·28	+ 3·37	+ 1,468	5,896	286	6,182
A 5	60	„	„	„	„	15	45	20,505	39·66	5·95	33·71	1·72	56·25	1·0897	2·19	·058	·192	89·8	2·6	3,898	8,537	+4·52	+ 5·72	+ 1,286	3,046	417	3,463
B 4	60 lb. nitrogen as nitrate of soda			...	60	21,718	36·48	6·43	30·05	2·69	56·25	1·0933	2·29	·060	·190	90·2	2·6	3,463	7,930	+1·34	+ 2·06	+ 679	5,488	432	5,920
B 7	40 lb. nitrogen as dried blood			15	25	20,693	40 05	6·40	33·65	·60	61·00	1·0915	2·29	·044	·156	92·0	1·9	4,212	9,646	+4·91	+ 5·66	+ 2,395	4,454	104	4,568
B 5	60	„	„	„	„	15	45	22,079	37·20	6·49	30·71	2·01	60·00	1·0791	1·93	·083	·147	89·4	4·3	3,825	7,382	+2·06	+ 2·72	+ 131	6,708	191	6,899
B 2	40	„	„	„	„	40	...	21,164	36·81	6·93	29·88	3·43	57·25	1·0915	2·27	·054	·166	91·2	2·4	3,510	7,968	+1·67	+ 1·89	+ 717	4,554	924	5,478
B 6	60	„	„	„	„	60	...	20,767	41·49	8·39	33·10	2·18	57·75	1·0906	2·25	·045	·175	91·1	2·0	3,926	8,834	+6·35	+ 5·11	+ 1,583	3,263	nil	3,263

TABLE III.

DODDS PLN.: LOWER BAY TREE FIELD.

PLANT CANES.

Phosphate Series.

Farmyard manure, 20 tons.
Phosphate.
Nitrogen as sulphate of ammonia, 15 lb. in February, 45 lb. in June.
Potash as sulphate, 60 lb. in January.

Number of Plots.		Applied in 1923.		No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. of juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Difference by manuring.			*Diaprepes abbreviatus* per acre.	*Phytalus smithi* per acre.	*Diaprepes abbreviatus* and *Phytalus smithi* per acre.
		January.	June.		Produce.	Cane tops.	Canes.			Sp. Gr. 30° C. 16·6° C.	Lb. per gallon. Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.			Produce, tons per acre.	Canes, tons per acre.	Saccharose, lb. per acre.			
		lb.	lb.																				
A 1	No chemical manure ..	...	...	21,781	35·14	7·15	27·99	6·51	57·75	1·0888	2·18	·069	·171	90·1	3·2	3,326	7,251	...	...	...	4,033	618	4,651
B 1	Farmyard manure, 20 tons extra	...	...	21·491	33·95	5·55	28·40	3·96	60·50	1·0897	2·21	·052	·178	90·6	2·4	3,534	7,810	− 1·19	+ ·41	+ 559	6,072	807	6,879
A 7	No phosphate	...	...	21,803	37·69	5·38	32·31	2·14	58·25	1·0897	2·21	·050	·150	91·8	2·2	3,868	8,664	+ 2·55	+ 4·32	+ 1,413	3,864	425	4,289
B 8	40 lb. phosphate as superphosphate „	40	...	22,048	40·27	7·47	32·80	3·44	57·25	1·0906	2·22	·081	·169	89·9	3·6	3,857	8,563	+ 5·13	+ 4·81	+ 1,312	3,466	103	3,569
A 5	80 lb. „ „ „	80	...	20,595	39·66	5·95	33·71	1·72	56·25	1·0897	2·19	·058	·192	89·8	2·6	3,898	8,537	+ 4·52	+ 5·72	+ 1,286	3,046	417	3,463
B 9	120 lb. „ „ „	120	..	19,148	42·93	7·99	34·94	1·13	53·00	1·0924	2·31	051	·149	92·0	2·2	4,013	9,270	+ 7·79	+ 6·95	+ 2,019	5,412	264	5,676
A 8	80 lb „ „ „	40	40	19,485	38·68	5·76	32·92	1·19	58·25	1·0870	2·16	·051	·159	91·1	2·4	3,952	8,536	+ 3·54	+ 4·93	+ 1,285	2,986	1,056	4,042
A 9	120 lb. „ „ „	60	60	20,658	40·46	6·19	34·27	1·07	58·75	1·0897	2·24	·053	·147	91·8	2·4	4,133	9,269	+ 5·32	+ 6·28	+ 2,018	2,794	264	3,058
A 13 Lower Half	80 lb. „ basic slag	80	...	21,736	37·99	6·80	31·19	3·84	56·00	1·0915	2·32	·047	·123	93·2	2·0	3,585	8,317	+ 2·85	+ 3·20	+ 1,066	1,544	250	1,794
A 13 Upper Half	100 lb. „ „	60	...	21,294	42·20	9·11	33·09	2·46	60·00	1·0915	2·26	·045	·185	90·8	2·0	4,136	9,347	+ 7·06	+ 5·10	+ 2,096	1,250	121	1,371

TABLE IV. PLANT CANES.

DODDS PLN.: LOWER BAY TREE FIELD.

Potash Series.

{*Farmyard Manure*, 20 tons.
Potash.
Nitrogen as sulphate of ammonia, 15 lb. in February, 45 lb. in June.
Phosphate as superphosphate, 80 lb. in January.

Number of Plots		Applied in 1923.		No. of canes per acre.	WEIGHT IN TONS PER ACRE.			Per cent. by number of rotten canes.	Per cent. of juice by mill.	NORMAL JUICE.						Gallons of juice per acre.	Saccharose, lb. per acre.	Difference by manuring.			*Diaprepes abbreviatus* per acre.	*Phytalus smithi* per acre.	*Diaprepes abbreviatus* and *Phytalus smithi* per acre.
		January. lb.	June. lb.		Produce.	Cane tops.	Canes			Sp. Gr. $\frac{30°\ C.}{16·6°\ C.}$	lb. per gallon. Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.			Produce, tons per acre.	Canes, tons per acre.	Saccharose, lb. per acre.			
A 1	No chemical manure ..	...	..	21,781	35·14	7·15	27·99	6·54	57·75	1·0888	2·18	·069	·171	90·1	3·2	3,326	7,251	...	...	...	4,033	618	4,651
B 1	Farmyard manure, 20 tons extra	...	...	21,491	33·95	5·55	28·40	3·96	60·50	1·0897	2·21	·052	·178	90·6	2·4	3,534	7,810	−1·19	+ ·41	+ 559	6,072	807	6,879
B 10	No potash	...	...	24,354	40·23	7·48	32·85	4·26	55·25	1·0906	2·27	·064	·136	91·9	2·8	3,728	8,463	+5·19	+4·86	+1,212	4,213	238	4,451
A 10	40 lb. potash as sulphate	40	...	21 761	42·01	6 70	35·31	1·59	60·50	1·0906	2·25	·050	·170	91·1	2·2	4,388	9,873	+6·87	+7·32	+2,622	2.658	108	2,766
A 5	60 lb. ,, ,, ...	60	...	20,505	39·66	5·95	33·71	1·72	56·25	1·0897	2·19	·058	·192	89·8	2·6	3,898	8,537	+4·52	+5·72	+1,286	3,046	417	3,463
A 11	80 lb. ,, ,,	80	...	20,746	42·30	7·84	34·46	·83	58·50	1·0924	2·33	·047	·133	92·8	2·0	4,134	9,632	+7·16	+6·47	+2,381	2,312	497	2,809
A 12	100 lb. ,, ,, ..	100	...	22,409	41·90	6·43	35·47	3·34	57·50	1·0915	2·31	·050	·130	92·8	2·2	4,185	9,667	+6·76	+7·48	+2,416	1,404	605	2,009
B 12	60 lb. ,, ,, ...	30	30	20,879	37·45	5·05	32·40	1·96	55·75	1·0960	2·38	·053	·177	91·2	2·2	3,692	8,787	+2·31	+4·41	+1,536	4,020	82	4,102
B 11	80 lb. ,, ,, ...	40	40	22,355	36·87	3·74	33·13	3·79	56·75	1·0933	2·31	·061	·169	91·0	2·6	3,852	8,898	+1·73	+5·14	+1,647	2,951	340	3,291

TABLE V. SUMMARY OF RESULTS OBTAINED IN LOWER BAY TREE FIELD AT DODDS FOR THE SEASON ENDED 1924.

MANURES.			Muscovado sugar per acre.	Increase or decrease on no-manure.	Molasses from increase or decrease of muscovado sugar.	Loss or gain.	Value of manure applied.	Cost of manufacture of incremental sugar or amount deducted where there was a loss as compared with the control plot.	Gain or loss by manuring.	*Diaprepes abbreviatus* per acre.	*Phytalus smithi* per acre.	Total *Diaprepes abbreviatus* and *Phytalus smithi* per acre.
Name.	When applied.	Quantity applied.										
		Tons.	lb.	lb.	Gallons.	$. c.	$. c.	$. c.	$. c.			
Farmyard manure (control plot) ...	...	20	5,801	...	...	...	...	...	...	4,033	618	4,651
„ „ (20 tons extra) ...	...	40	6,248	+ 447	+ 20	+ 26.78	15.13	2.10	+ 9.55	6,072	807	6,879
NITROGEN SERIES.												
		lb.										
Farmyard manure, minerals and no-nitrogen.	...	...	6,045	+ 244	+ 11	+ 14.65	9.29	1.14	+ 4.22	2,139	713	2,852
40 lb. nitrogen as sulphate of ammonia. ...	June ...	40	6,586	+ 785	+ 35	+ 47.00	18.50	3.68	+ 24.82	2,293	361	2,654
60 lb. „ „ „ ...	„ ...	60	7,510	+ 1,709	+ 76	+ 102.25	23.11	8.01	+ 71.13	2,608	229	2,837
80 lb. „ „ „ ...	„ ..	80	7,096	+ 1,295	+ 58	+ 77.61	27.71	6.07	+ 43.82	3,800	127	3,927
40 lb. „ „ „ ...	Feby. 15 / June 25	40	6,975	+ 1,174	+ 52	+ 70.17	18.50	5.50	+ 46.17	5,896	286	6,182
60 lb. „ „ „ ...	Feby. 15 / June 45	60	6,830	+ 1,029	+ 46	+ 61.64	23.11	4.82	+ 33.71	3,046	417	3,463
60 lb. „ as nitrate of soda. ...	June ...	60	6,344	+ 543	+ 24	+ 32.44	24.24	2.55	+ 5.65	5,488	432	5,920
40 lb. „ as dried blood. ...	Feby. 15 / June 25	40	7,717	+ 1,916	+ 86	+ 114.89	22.15	8.98	+ 83.76	4,464	104	4,568
60 lb. „ „ ...	Feby. 15 / June 45	60	5,906	+ 105	+ 5	+ 6.38	28.59	.49	- 22.70	6,708	191	6,899
40 lb. „ „ ...	Feby. ...	40	6,374	+ 573	+ 26	+ 34.45	22.15	2.69	+ 9.61	4,551	924	5,478
60 lb. „ „ ...	Feby. ...	60	7,067	+ 1,266	+ 57	+ 75.97	28.59	5.93	+ 41.45	3,263	Nil	3,263

TABLE V.—*Concluded.* SUMMARY OF RESULTS OBTAINED IN LOWER BAY TREE FIELD AT DODDS FOR THE SEASON ENDED 1924.

MANURES.			Muscovado sugar per acre.	Increase or decrease on no-manure.	Molasses from increase or decrease of muscovado sugar.	Loss or gain.	Value of manure applied.	Cost of manufacture of incremental sugar or amount deducted where there was a loss as compared with the control plot.	Gain or loss by manuring.	*Diaprepes abbreviatus* per acre.	*Phytalus smithi* per acre.	Total *Diaprepes abbreviatus* and *Phytalus smithi* per acre.
Name.	When applied.	Quantity applied.										
		lb.	lb.	lb.	Gallons.	$. c.	$. c.	$. c.	$. c.			
PHOSPHATE SERIES.												
Farmyard manure, potash, nitrogen and no-phosphate.	...	...	6,931	+1,130	+ 50	+ 67.53	18.21	5.30	+ 44.02	3,864	425	4,289
40 lb. phosphate as superphosphate. ...	January ..	40	6,850	+1,049	+ 47	+ 62.87	20.66	4.92	+ 37.29	3,466	103	3,569
80 lb „ „ ...	„ ...	80	6,830	+1,029	+ 46	+ 61.64	23.11	4.82	+ 33.71	3,046	417	3,463
120 lb. „ „ ..	„ ...	120	7,416	+1,615	+ 72	+ 96.68	25.56	7.57	+ 63.55	5,412	264	5,676
80 lb. „ „ ...	January 40 June 40	80	6,826	+1,028	+ 46	+ 61.60	23.11	4.82	+ 33.67	2,986	1,056	4,042
120 lb. „ „ ...	January 60 June 60	120	7,415	+1,614	+ 72	+ 96.64	25.56	7.57	+ 63.51	2,794	264	3,058
80 lb. „ as basic slag. ...	January ...	80	6,654	+ 853	+ 38	+ 51.06	22.77	4.00	+ 24.29	1,544	250	1,794
100 lb. „ „ ...	January .	100	7,478	+1,677	+ 75	+ 100.47	23.90	7.86	+ 68.71	1,250	121	1,371
POTASH SERIES.												
Farmyard manure, nitrogen, phosphate and no-potash.	...	lb. ...	6,770	+ 969	+ 43	+ 57.95	18.72	4.54	+ 34.69	4,213	238	4,451
40 lb. potash as sulphate.	January ..	40	7,898	+2,097	+ 94	+ 125.70	21.65	9.83	+ 94.22	2,658	108	2,766
60 lb. „ „	„ ..	60	6,830	+1,029	+ 46	+ 61.64	23.11	4.82	+ 33.71	3,046	417	3,463
80 lb. „ „	„ ..	80	7,706	+1,905	+ 85	+ 114.07	24.58	8.93	+ 80.56	2,312	497	2,809
100 lb. „ „	„ ...	100	7,734	+1,933	+ 86	+ 115.66	26.04	9.06	+ 80.56	1,404	605	2,009
60 lb. „ „	January 30 June 30	60	7,020	+1,229	+ 55	+ 73.64	23·11	5.76	+ 44.77	4,020	82	4,102
80 lb. „ „	January 40 June 40	80	7,118	+1,317	+ 59	+ 78.94	24·58	6.17	+ 48.19	2,951	340	3,291

TABLE VI.—SHOWING THE NUMBER OF THE LARVAE OF THE ROOT-BORER AND BROWN HARDBACK FOUND IN EACH MANURIAL PLOT IN LOWER BAY TREE FIELD FOR THE FOUR SEASONS 1916-1918, 1918-1920, 1920-1922, 1922-1924.

Plots.	Root-borer and brown hardback.				Plots.	Root-borer and brown hardback.			
	1918	1920	1922	1924		1918	1920	1922	1924
A. 1 ...	475	420	55	244	B. 1 ..	199	496	16	382
A. 2 ..	265	239	25	136	B. 2 ...	130	219	53	261
A. 3 ...	316	309	21	128	B. 3 ...	212	463	68	286
A. 4 ..	276	229	54	137	B. 4 ...	219	351	31	300
A. 5 .	240	346	69	170	B. 5 ...	210	232	46	333
A. 6 ...	305	313	49	204	B. 6 ...	159	275	55	155
A. 7 ...	232	313	104	212	B. 7 ...	150	290	55	222
A. 8 ..	228	287	94	188	B. 8 ...	151	200	45	176
A. 9 ...	190	235	61	175	B. 9 ...	164	253	44	265
A. 10 ..	245	260	57	137	B. 10 ...	180	249	88	218
A. 11 ..	258	302	105	132	B. 11 ..	196	301	77	166
A. 12 ...	322	331	51	104	B. 12 ...	308	339	74	200
A. 13 Upper half	156	150	14	34					
A. 13 Lower half	176	175	30	43					
	3,681	3,909	792	2,044		2,278	3,668	652	2,964

1916-1918	5,962
1918-1920	7,577
1920-1922	1,444
1922-1924	5,008

As it may be of interest, we include Table VII showing the number of the root-borer and the brown hardback, larvae and pupae collected in Lower Bay Tree and Summervale fields, the fields in which the manurial plots are carried on, from December 1922 to May 1924. As will be seen therefrom, 35,874 were collected from the two fields and as they contain nine acres the average is 3,986.

TABLE VII—SHOWING THE NUMBER OF IMAGOES, LARVAE, ETC., OF THE PHYTALUS SMITHI, ARROW, AND DIAPREPES ABBREVIATUS, LINN, COLLECTED ON AND AROUND BAY TREE AND SUMMERVALE FIELDS AT DODDS, THE FIELDS IN WHICH THE MANURIAL PLOTS ARE SITUATED, FROM DECEMBER, 1922, TO MAY, 1924.

Months.	Lower Bay Tree Field.					Summervale Field.				
	Phytalus Smithi.		*Diaprepes abbreviatus.*			*Phytalus Smithi.*		*Diaprepes abbreviatus.*		
	Imagoes.	Larvae.	Imagoes.	Larvae.	Egg batches.	Imagoes.	Larvae.	Imagoes.	Larvae.	Egg batches.
December 1922 ...	35	...	...	...	...	1,503	...	...	...	...
January 1923 ...	..	..	...	..	...	1,088	...	...		...
February ,, ...	..	...	...	...	..	429	...	...	...	...
March ,, ...	30	..		...	..	519	...	...	...	..
April ,, ...	74	...	...	...	...	1,154			...	..
May ,, ...	178	..	...	...	..	984	702	...	2,502	...
June ,, ...	432	...	1,298	..	246	291	.	.	...	...
July ,, ...	579	...	135	21	...	.	...	...	...	..
August ,, ...	802	...	1,178	...	173	295	...	52	...	...
September ,, ...	1,374	...	523	...	39	42	..	...	—	...
October ,, ...	2,218	.	246	...	...	173	...	...	—	...
November ,, ..	3,135	...	143	...	...	288	...	2	...	...
December ,, ...	1,522	...	7	...	..	352	...	...	...	...
January 1924 ...	1,485		...	...	...	485	..	...	—	...
February ,	1,209	...	...	...	...	272	...	...	...	...
March ,, ...	1,275	134	...	1,265	...	38	...	...	...	...
April ,, ..	870	303	2	3,104	...	..	..	...	...	...
May ,, ...	675	96	...	122	..	223	7	...	...	..
	15,893	533	3,532	4,512	458	8,139	709	54	2,502	...

The monetary loss sustained at present from the attacks of these pests, viz, *Diaprepes abbreviatus*, Linn, and *Phytalus smithi*, Arrow, is still considerable. To give some idea of what the loss is, it may be mentioned that this year before the sugar canes on the manurial plots were reaped, 64 clumps had to be reaped as the tops had commenced to wither. On digging out the stools 309 larvae of these two pests were found. The average weight of each cane in the withered clumps was 2·82 lb. and in spite of the fact that 4,699 larvae were found in the remaining plots, the average weight of each cane was 3·52 lb. In other words, although a large number of canes in the remaining plots had also been attacked by the two pests, still, as a smaller percentage was attacked, they weighed on the average ·70 lb. per cane more than those in the 64 clumps cut first. The loss, therefore, which is really much more, is apparently 5·71 tons of canes per acre. As the average price at which dark crystal sugar was sold this year was $5.06 per 100 lb. the value of 5·71 tons of canes would be $46.48.

TABLE VIII—THE NUMBER OF ROOT-BORER AND BROWN HARDBACK LARVAE DUG OUT OF THE MANURIAL EXPERIMENT PLOTS IN LOWER BAY TREE FIELD AND THE LOSS SUSTAINED PER ACRE FOR THE FOUR SEASONS ENDED 1924.

Seasons.	No. of root-borer and brown hardback larvae.	Estimated tons canes lost each season.	Value per acre at current price of sugar.
			$ c.
1916-1918	5,962	4·42	33.72
1918-1920	7,577	1·36	92.01
1920-1922	1,445	3·35	14.07
1922-1924	5,008	5·71	46.48

It may be mentioned that 447,208 larvae and imagoes of the root borer and the brown hardback were collected on the lands of the Government Industrial Schools from December 1st, 1922, to April 30th, 1924. As there were sixty-nine acres of canes this would be 6,481 per acre, and would amount to an increase of 99,983 of the pest as compared with the previous season, or 28·8 per cent.

In connection with the increase in the number of the root borer and brown hardback it will be remembered that in April 1919, His Excellency the Governor was pleased to appoint a Commission "to enquire into the causes of the root borer disease of the sugar cane and to report on what measures should be adopted with a view of controlling or eradicating same." The Commissioners duly reported and in their report included the brown hardback. The report which made certain recommendations for keeping these pests in check was printed and duly distributed, but so far nothing further has been done in the matter, and very few planters have, up to the present, carried out the recommendations made by the Commissioners.

With regard to the mosaic disease of the sugar-cane, inspections under the provisions of the Mosaic Disease (Eradication) Act were commenced on November 12, 1923, and ended on May 31, after which time in any year, according to the Act, no owner or occupier of any land on which mosaic disease is found can be compelled to dig up or destroy attacked sugar-canes. During the period the Inspector visited 126 estates and 346 small holdings. Of the former, 28, or 22·2 per cent. were infected by the mosaic disease and of the latter, 237, or 68·5 per cent. It may be mentioned that for the previous season inspections were carried on from August 14, 1922, to May 31, 1923, during which period visits were paid to 220 estates and to 485 peasants holdings. Of the former, 57, or 25·9 per cent., of the latter, 258, or 53·2 per cent. were infected by the disease. From this it will be seen that while there has been a slight reduction in the percentage of infection found on the estates, the percentage of infection found on the peasants holdings has increased.

As an explanation of this increase it may be stated that this year the Inspector confined his activities as regards the small holdings principally to the suburbs of Bridgetown where the disease is more prevalent than elsewhere. There is also a great deal more Guinea corn planted in this area than sugar-cane and it has been found that the former plant is much more susceptible to the mosaic disease than the sugar-cane. As a matter of fact there will hardly be found a plot of ratoon Guinea corn in the suburbs of Bridgetown that is not infected by mosaic disease.

EXPERIMENTS WITH CUTTINGS MADE FROM CANES ATTACKED AND CANES NOT ATTACKED BY THE MOTH BORER.

During the season under review experiments were carried out at Dodds and Lemon Arbor plantations with cuttings taken from sugar-canes attacked and sugar-canes not attacked by the moth borer (*Diatraea saccharalis*, Fabr.). The results are given in Tables IX and X.

At Dodds the plots were planted with cuttings made from the variety B.H. 10 (12) while those at Lemon Arbor were planted with cuttings made from the Ba. 6032. As will be seen from the Tables, in each instance the plots planted with cuttings made from the sugar-canes not attacked by the moth borer gave the higher yields amounting in the case of Dodds to 132 lb. of saccharose per acre for one crop, and in that of Lemon Arbor to 1,779 lb. of saccharose per acre for the two crops, (plants and first ratoons) equal to increases of 1·91 per cent. and 13·77 per cent. respectively.

EXPERIMENTS WITH CUTTINGS MADE FROM PLANT CANES, FIRST RATOONS AND SECOND RATOONS OF THE Ba. 6032.

Experiments with the growing of sugar-canes from cuttings made from plant canes, first ratoons and second ratoons of the Ba. 6032 were continued this year at Lemon Arbor plantation. The results are given in Table XI.

As will be seen therefrom, the plots planted with cuttings made from plant canes gave 1,270 lb. of saccharose per acre for the two crops (plants and first ratoons) over the plots planted with cuttings made from first ratoons and 2,095 lb. of saccharose per acre for the two crops over the plots planted with second ratoons, equal to increases of 10·19 per cent. and 18 per cent. respectively, whilst the plots planted with cuttings made from first ratoons gave 825 lb. of saccharose per acre for the two crops over those planted with cuttings made from second ratoons, equal to an increase of 7·1 per cent.

EXPERIMENTS WITH CUTTINGS MADE FROM LARGE AND SMALL CANES OF THE VARIETY Ba. 6032.

During the period under review, experiments were also carried out at Lemon Arbor plantation with cuttings made from large sugar-canes and small sugar-canes of the variety Ba. 6032. The results are given in Table XII.

As will be seen therefrom, the plots planted with cuttings made from large sugar-canes gave 1,032 lb. of saccharose per acre for the two crops over the plots planted with the cuttings taken from small canes, equal to an increase of 7·94 per cent.

TABLE IX—DODDS PLANTATION : CAT HOLE FIELD. 1922–1924.

Plant Canes.

Name or No. of cane.	No. of canes per acre	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	NORMAL JUICE. Sp. Gr. 30°C./16·6°C.	lb. per gallon of Saccharose.	lb. per gallon of Glucose.	lb. per gallon of Solids not sugar.	Quotient of Purity.	Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of Insect Pests per acre. *Diaprepes abbrevatus*, Linn.	*Phytalus smithi*, Arrow.	Total.
Non-borer cuttings of B.H. 10 (12)																
Series i ...	19,163	28·72	3·94	60·25	1·0870	1·96	·147	·263	82·7	7·5	3.566	6,989	Slight.	465	290	755
Series ii ...	19,976	26·57	2·03	62·00	1·0870	2·09	·156	·124	88·2	7·5	3,395	7,096	Slight.	406	406	812
Mean ...	...	27·65	...	...	...	2·03	—	...	85·45	...	...	7,043	..	...	..	...
Borer cuttings of B.H. 10 (12)																
Series i ...	18,261	26·28	2 31	62·50	1·0861	2·09	·156	·104	88·9	7·5	3,388	7,080	Moderate.	421	421	842
Series ii ...	18,640	24·55	2·49	61·75	1·0879	2·16	·089	·141	90·4	4·1	3,121	6,741	Moderate.	523	406	929
Mean ...	...	25·42	...	...	...	2·13	...	...	89·65	—	...	6,911	...	...	..	...

TABLE X—SHOWING AVERAGE RESULTS OBTAINED BY GROWING SUGAR-CANE CUTTINGS SELECTED FROM CANES ATTACKED AND CANES NOT ATTACKED BY THE MOTH BORER (DIATRAEA SACCHARALIS, FABR.) AT LEMON ARBOR PLANTATION DURING THE SEASON 1922—24.

Name of Plots.	No. of experiments.	Canes, tons per acre.			Saccharose, lb. per acre.			Increase, saccharose, lb. per acre over "Borer cuttings."	Increase per cent. over "Borer cuttings."
		Plant canes.	First ratoons.	Total for two crops.	Plant canes.	First ratoons.	Total for two crops.		
Non-borer cuttings of Ba. 6032	4	38·21	26·99	65·20	8,936	5,766	14,702	1,779	13·77
Borer cuttings of Ba. 6032	4	35·02	23·18	58·20	8,101	4,822	12,923	...	...

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TABLE XI—SHOWING THE AVERAGE RESULTS OBTAINED BY GROWING SUGAR-CANE CUTTINGS SELECTED FROM PLANT CANES, FIRST RATOONS AND SECOND RATOONS AT LEMON ARBOR PLANTATION DURING THE SEASON 1922—24.

Name of Plots.	No. of experiments.	Canes, tons per acre.			Saccharose, lb. per acre.			Increase, saccharose, lb. per acre over first ratoon cuttings.	Increase, saccharose lb. per acre over second ratoon cuttings.	Increase per cent. over first ratoon cuttings.	Increase per cent. over second ratoon cuttings.
		Plant Canes.	First ratoons.	Total for two crops.	Plant canes.	First ratoons.	Total for two crops.				
Plant cane cuttings of Ba. 6032 ...	4	30·34	30·24	60·58	7,022	6,712	13,734	1,270	2,095	10·19	18·0
First ratoon cuttings of Ba. 6032 ...	4	30·55	25·69	56 24	6,876	5,588	12,464	...	825	...	7·1
Second ratoon cuttings of Ba. 6032 ..	4	29·22	22·72	51·94	6,744	4,895	11,639	...	...	...	...

TABLE XII—SHOWING AVERAGE RESULTS OBTAINED BY GROWING SUGAR-CANE CUTTINGS SELECTED FROM LARGE AND SMALL CANES OF Ba. AT LEMON ARBOR PLANTATION DURING THE SEASON 1922—24.

Name of Plots.	No. of experiments.	Canes, tons per acre.			Saccharose, lb. per acre.			Increase, saccharose lb. per acre over "small cuttings."	Increase per cent. over "small cuttings."
		Plant canes.	First ratoons.	Total for two crops.	Plant canes.	First ratoons.	Total for two crop		
Large cuttings of Ba. 6032 ... —	3	34·74	28·78	63·52	7,930	6,098	14,028	1,032	7·94
Small cuttings of Ba. 6032	3	31·13	26·54	57·67	7,272	5,724	12,996		

In last season's report we gave the results of the experiments started in 1920-22 for ascertaining whether it was not possible to increase the yield of the sugar-canes per acre, by growing them from stools containing on the average the maximum number per stool as compared with the minimum number per stool and also from cuttings made in the manner usually adopted on sugar estates, that is, taking cuttings from stools as they come without any regard to selection. Similar experiments were carried out again this year as far as growing the sugar-canes to maturity was concerned. Unfortunately, however, the Assistant who carried out the experiments failed to record correctly the number of clumps cut and to collect and weigh the canes from each plot. We regret, therefore, that we are unable to include the results of these experiments in this season's report as they are valueless.

PART III.

EXPERIMENTS WITH SEEDLING AND OTHER CANES AT BARBADOS FOR THE SEASON 1922-1924.

The following is a summary of the principal results obtained in connection with seedling and other varieties of sugar-cane for the season 1922-1924 and contains the more important results that have been obtained during the season. In this branch of the work the object which is steadily kept in view is to obtain such varieties as will be best suited to the soil and climatic conditions existing in the different districts of the island.

To this end, numbers of new canes are raised annually from seed, the number depending in a great measure on the climatic conditions existing during the flowering season of the sugar-cane and on the funds available for the carrying on of the work. When the weather conditions are favourable large numbers are easily grown ; on the other hand when drought prevails at the time the sugar-canes are flowering the seeds are by no means as fertile and, consequently, comparatively few germinate.

Seeds of certain of the sugar-canes which are selected for their yield and saccharose content, etc., are sown in boxes towards the end of November or in the beginning of December in each year. As soon as the plantlets are sufficiently grown, they are pricked out into pots and when they are about eight or ten inches high they are planted, usually in the month of April, in the field prepared for their reception, so that they may be grown to maturity by May of the following year. In a year's time those varieties, which from their field characters are considered good enough for reproduction, are cut, weighed, crushed, and the juice analysed. Only the stools from those canes which give a sufficiently high weight and contain fairly rich and pure juice are selected for replanting. The stools of the canes selected are taken up, divided in halves, planted where in the past they could be irrigated and carefully labelled. At the same time a plan of the field is made showing the position of each stool.

During the following December the canes from these stools are made into cuttings and planted. From then onward each variety is annually propagated and multiplied in the usual manner, and grown in competition with the White Transparent, the standard cane, and B.H. 10 (12) which has of late years given such excellent results.

If the results of the new canes, when grown under similar conditions to the White Transparent and B.H. 10 (12), are satisfactory they are cultivated on the various experiment plots in the black and red soils, until they are either ultimately rejected or cuttings taken from them are supplied to the planters with the recommendation to try them on a small scale, and, if the results justify their further cultivation, to increase gradually the acreage planted with them.

SEEDLINGS OBTAINED IN 1922 AND 1924.

In 1922, owing to the unsuitable weather conditions, only about 10,000 seedling sugar-canes were grown. Of these 4,109 were potted out and 3,118 of the more vigorous were planted in Leader field at Summervale in 1923. During the reaping season of 1924, 300 were reaped, the juice was analysed and 123 of the best seedlings were retained. As was mentioned in the last report, owing to the attacks of the root borer and the brown hardback it was decided to discontinue growing the first year seedling sugar-canes on the land rented from Waterford plantation and to grow them on the land of the Government Industrial Schools. Unfortunately, owing to the drought the young seedlings were not transplanted in the field until June 8, 1923, with the result that, as they suffered so much in the pots, at reaping time they were stunted and in poor condition.

Owing to the drought which prevailed during the first half of 1923 the sugar-canes grown on the lands of the Government Industrial Schools were again this year so immature when the usual period for flowering arrived that none of the better varieties produced seeds.

It was therefore necessary to obtain seeds from some of the planters who reside in the higher districts of the island, where, owing to a better rainfall, the sugar-canes produced fertile seeds. From these, about 30,000 seedlings were grown. Of the seedlings that germinated 5,041 were potted out. Of these, 3,000 were planted on the land of the Government Industrial Schools on June 20th, 1924.

Since 1898 a total of 118,609 sugar-canes have been raised from seeds and potted out. Of these 3,118 were under cultivation during the season 1922-1924 and 414 variety, manurial and other plots were reaped and the juice from a number of the sugar-canes analysed.

The selected varieties were cultivated during the season at thirteen estates representative of the localities in which they were situated; nine being in the black soils, three in the red soils and one in the Scotland district. In the case of the black soils, we regret to say that the experiment plots at Sunbury plantation were destroyed by fire before the canes were mature so that no results can be given for them. In the Scotland district the canes of the experiment plots were not reaped as the present proprietor does not care for the experiments to be carried out on his estate, and so many difficulties were placed in our way both during the last reaping and planting seasons that they have been abandoned. Of the above, five in the black soil districts and one in the red soil district are used as intermediary stations on which the different varieties are tested before they are finally sent to what are generally known as the "Selected Seedling Estates." These latter are the estates on which the standard varieties and the best seedlings are cultivated in duplicate plots.

The increase in value of any variety during the year under review when compared with the White Transparent, the standard cane, has been calculated at the rate of $4.56 per 100 lb. of muscovado sugar, the approximate average price at which this sugar sold from January to June, 1924.

In the Tables giving the increase compared with the White Transparent during the past five years, its value has been calculated at $5.87 per 100 lb. the approximate average price at which muscovado sugar sold for the years 1920-1924.

For the season under review, the comparative results of the plant canes in the black soil districts are given in Table XIII, both in pounds of saccharose and pounds of muscovado sugar per acre. In calculating the results as mentioned above, 100 lb. of saccharose is taken as equal to 80 lb. of muscovado sugar with its molasses.

Before considering the comparative results obtained with the different varieties of the sugar-canes cultivated for the season 1922-1924, it may be as well to emphasize strongly here the fact that the results are by no means conclusive, particularly in the black soils, owing, as in the case of manurial experiments, to the attacks of the root borer (*Diaprepes abbreviatus*, Linn) and the brown hardback (*Phytalus smithi*, Arrow). These pests attack some of the clumps of the sugar-cane in some plots in greater numbers than in others, therefore, the results, are anything but comparable.

The average results of the better varieties of the seedling sugar-canes on the black and red soils for the season 1922–1924 are given in Table XIII to Table XV. In Tables XVI and XVII the results on the black soils for the five seasons 1918-20, 1919-21, 1920-22, 1921-23 and 1922-24 and on the red soils for the five seasons 1917-19, 1919-21, 1920-22, 1921-23 and 1922-24 are given where the yield and increase in value over the White Transparent may be seen.

TABLE XIII—RESULTS OF SEEDLING AND OTHER VARIETIES OF THE SUGAR-CANE THAT HAVE BEEN UNDER CULTIVATION FOR SOME YEARS FOR THE SEASON 1922—1924.

Black Soils—Plant Canes.

Name or No. of cane.	No. of experiments.	Saccharose, lb. per acre.	Muscovado sugar, lb. per acre.	Increase or decrease in value per acre compared with White Transparent.
				$ c.
S.C. $\frac{12}{4}$ (*a*)	1	9,733	7,786	159.65
B. 465	1	9,466	7,573	149.93
B. 494	1	9,087	7,270	136.12
B. 381	1	8,726	6,981	122.94
B. 409	3	8,656	6,925	120.38
B. 549	1	8,521	6,817	115.46
B. 423	2	8,243	6,594	105.29
B. 183	1	8,186	6,549	103.21
B. 472	1	8,128	6,502	101.10
B. 154	1	8,026	6,421	97.40
B. 117	1	7,665	6,132	84.22
Ba. 11569	12	7,648	6,118	83.59
B. 454	1	7,573	6,058	80.85
B. 397	1	7,527	6,022	79.21
B. 516	1	7,244	5,795	68.86
B. 204	1	7,144	5,715	65.21
B. 164	1	7,112	5,690	64.07
B. 505	1	7,112	5,690	64.07
B.H. 10 (12)	16	7,058	5,646	62.06
B. 512	1	7,039	5,631	61.38
B. 405	1	7,018	5,614	60.60
B. 417	3	6,963	5,570	58.60
Ba. 6032	12	6,939	5,551	57.73
B. 537	1	6,898	5,518	56.23
B. 199	1	6,826	5,461	53.63
B. 119	1	6,633	5,306	46.56
B. 67	9	6,615	5,292	45.92
B. 368	1	6,573	5,258	44.37
B. 169	1	6,562	5,250	44.00
B. 491	1	6,547	5,238	43.46
B. 268	2	6,544	5,235	43.32
B. 177	1	6,469	5,175	40.58
B. 39	5	6,406	5,125	38.30
Ba. 7924	7	6,406	5,125	38.30
B. 374	1	6,386	5,109	37.57
B. 240	1	6,335	5,068	35.71
B. 506	1	6,272	5,018	33.43
Ba. 8192	1	6,118	4,894	27.77
B.S.F. 13 (14)	2	6,110	4,888	27.50
B. 85	1	5,958	4,766	21.93
B. 396	1	5,911	4,729	20.25
Ba. 11403	3	5,880	4,704	19.11
B. 391	2	5,795	4,636	16.01

(*a*) This cane was one of a number of Barbados young sugar-cane seedlings contained in four boxes which were sent to the Director of Agriculture in St. Croix by the Drector of Agriculture of Barbados (*vide* Report of the work done by the Agricultural Experiment Station in St. Croix during the year from 1st July 1911 to the 31st June 1912).

TABLE XIII—(*Concluded*). RESULTS OF SEEDLING AND OTHER VARIETIES OF THE SUGAR-CANE THAT HAVE BEEN UNDER CULTIVATION FOR SOME YEARS FOR THE SEASON 1922—1924.

Black Soils – Plant Canes.

Name or No. of cane.	No. of experiments.	Saccharose, lb. per acre.	Muscovado sugar, lb. per acre.	Increase or decrease in value per acre compared with White Transparent.
				£ s. d.
B. 163	1	5,677	4,542	11.72
B. 466	1	5,552	4,442	7.16
B. 425	4	5,539	4,431	6.68
Bourbon...	1	5,525	4,420	6.16
B. 6450	12	5,512	4,410	5.70
B. 468	1	5,490	4,392	4.88
B.S.F. 12 (48)	1	5,474	4,379	4.29
Ba. 8069...	8	5,453	4,362	3.51
B. 458	1	5,420	4,336	2.33
B. 14761...	1	5,369	4,295	.46
W. Trans.	16	5,356	4,285	..
B.S.F. 12 (50)	4	5,296	4,237	– 2.20
B. 2001	5	5,166	4,133	– 6.93
B. 18	2	5,164	4,131	– 7.02
B. 525	1	5,131	4,105	– 8.21
W. No. 2	2	5,042	4,034	– 11.45
Ba. 12079	3	4,983	3,986	– 13.63
B. 554	1	4,954	3,963	– 14.68
B. 542	1	4,892	3,914	– 16.92
B. 526	1	4,824	3,859	– 19.43
Ba. 8409...	5	4,747	3,798	– 22.21
B. 237	2	4,497	3,598	– 31.33
Ba. 8846	1	4,260	3,408	– 39.99
Uba	1	3,653	2,922	– 62.15
Ba. 2471...	1	3,106	2,485	– 82.08
B. 263	1	2,471	1,977	– 105.25

TABLE XIV—RESULTS OF SELECTED VARIETIES FOR THE SEASON 1922-1924.

Red Soils—Plant Canes.

Name or No. of cane	No. of experiments.	Saccharose, lb. per acre.	Muscovado sugar, lb. per acre.	Increase in value per acre compared with White Transparent.
				$ c.
B. 405	2	14,321	11,457	312.54
B.H. 10 (12)	7	10,904	8,723	187.87
Ba. 6032	7	9,204	7,363	125.86
Ba. 11569	7	8,916	7,133	115.37
B. 67	7	8,900	7,120	114.78
Ba. 7924	5	8,571	6,857	102.78
Ba. 12079	3	8,244	6,595	90.84
B. 6450	7	8,144	6,515	87.19
Ba. 11224	1	7,578	6,062	66.53
Ba. 8069	2	7,369	5,895	58.92
B.S.F. 12 (24)	1	6,987	5,590	45.01
B. 39	1	6,321	5,057	20.70
Ba. 2471	2	5,868	4,694	4.15
W. Transparent	7	5,754	4,603	...

TABLE XV—RESULTS OF SELECTED VARIETIES OF PLANT CANES, FIRST RATOONS AND SECOND RATOONS REAPED DURING THE CROP SEASON OF 1921.

Red Soils.

Name or No. of cane.	No. of experiments.	Saccharose, lb. per acre.				Muscovado sugar, lb. per acre.	Increase in value per acre compared with W. Transparent.
		Plants.	First Ratoons.	Second Ratoons.	Total for three crops.		
							$ c.
B.H. 10 (12) ...	16	10,904	7,962	9,440	28,306	22,645	464.53
Ba. 12079	8	8,244	7,128	8,657	24,029	19,223	308.48
B. 67	16	8,900	6,975	7,915	23,730	19,032	299.77
Ba. 7924	12	8,571	6,202	8,504	23,277	18,622	281.08
Ba. 6032	16	9,204	6,194	7,158	22,556	18,045	254.77
B. 6450	16	8,144	6,130	8,256	22,530	18,021	253.81
W. Transparent ...	16	5,754	4,554	5,265	15,573	12,458	...

TABLE XVI—RESULTS OF SELECTED VARIETIES FOR THE FIVE SEASONS 1918-20 TO 1922-24.

Black Soils—Plant Canes.

Name or No. of cane.	No. of years.	No. of experiments.	Saccharose, lb. per acre.	Muscovado sugar, lb. per acre.	Increase or decrease in value per acre compared with White Transparent.
					$ c.
B. 268	5	9	6,738	5,390	105.78
B. 39	5	11	6,593	5,274	98.97
B.S.F. 12 (48)	5	5	6,458	5,166	92.63
B. 117	5	5	6,435	5,148	91.57
Ba. 11569	5	55	6,424	5,139	91.04
B. 154	5	5	6,125	4,956	80.30
B.H. 10 (12)	5	79	6,178	4,942	79.48
B. 240	5	5	6,019	4,815	72.02
B. 119	5	5	5,936	4,749	68.15
B. 169	5	5	5,817	4,654	62.57
B. 237	5	7	5,750	4,600	59.40
Ba. 8069	5	26	5,716	4,573	57.82
Ba. 6032	5	61	5,715	4,572	57.76
B. 204	5	5	5,640	4,512	54.24
Ba. 8409	5	17	5,615	4,492	53.06
B. 164	5	5	5,500	4,400	47.66
B. 67	5	47	5,413	4,330	43.56
B.S.F. 12 (50)	5	14	5,351	4,281	40.68
B. 163	5	5	5,350	4,280	40.62
B. 199	5	5	5,326	4,261	39.51
B. 177	5	5	5,299	4,239	38.21
Ba. 12079	5	11	5,285	4,228	37.57
Ba. 7924	5	40	5,212	4,170	34.16
B.S.F. 13 (14)	5	9	5,209	4,167	33.99
Ba. 8846	5	5	5,183	4,146	32.75
B. 85	5	9	5,084	4,067	28.12
B. 6150	5	64	5,077	4,062	27.82
B. 18	5	6	5,049	4,039	26.47
Ba. 11403	5	20	4,832	3,866	16.32
W. Transparent	5	85	4,485	3,588	...
Bourbon	5	5	3,858	3,086	– 29.47

TABLE XVII—SELECTED VARIETIES FOR THE FIVE SEASONS 1917-1919 1919-1921 1920-1922, 1921-1923, 1922-1924.

Red Soils—Plant Canes.

Name or No. of cane.	No. of years.	No. of experiments.	Saccharose, lb. per acre.	Muscovado sugar, lb. per acre.	Increase in value per acre compared with White Transparent.
					$ c.
B.H. 10 (12)	5	40	9,317	7,454	198.64
Ba. 6032	5	40	7,957	6,366	134.78
Ba. 11569	5	30	7,888	6,310	131.49
Ba. 12079	5	15	7,406	5,925	108.89
Ba. 7924	5	36	7,186	5,749	98.56
B. 6450	5	40	6,864	5,491	83.41
Ba. 2471	5	14	5,950	4,760	40.50
W. Transparent	5	39	5,087	4,070	...

TABLE XVIII. *Black Soils—Plant Canes.*

SECOND YEAR SEEDLINGS.

RESULTS OF CERTAIN OF THE BETTER SEEDLING CANES UNDER EXPERIMENT FOR THE SEASON 1922-1924.

Name or No. of cane.	No. of experiments.	No. of years.	Canes, tons per acre.	Saccharose, lb. per gallon.	Glucose, lb. per gallon.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.
B. 603	1	1	44·07	2·03	·081	91·00	4·00	11,673
B. 600	1	1	39·54	1·98	·081	89·60	4·10	10,547
B.H. 10 (12)	1	1	34·42	2·29	·074	91·20	3·20	9,861
B. 571	1	1	35·18	1·68	·083	88·40	4·94	7,646
W. Transparent	1	1	28·85	1·93	·100	88·50	5·20	7,133
B. 598	1	1	33·00	1·81	·089	85·80	4·90	7,110
B. 601	1	1	28·22	2·03	·054	91·90	2·70	6,973
B. 588	1	1	32·02	1·64	·147	84·10	9·00	6,560
B. 572	1	1	27·48	1·77	·100	88·50	5·60	6,374
B. 591	1	1	27·73	1·89	·078	88·30	4·10	6,099
B. 573	1	1	27·03	1·65	·093	86·80	5·60	5,861
B. 599	1	1	27·14	1·89	·086	88·30	4·60	5,649
B. 587	1	1	24·17	1·77	·081	87·60	4·60	5,022

TABLE XIX. *Black Soils—Plant Canes.*

RESULTS OF SOME OF THE BETTER SEEDLING AND OTHER SUGAR CANES UNDER EXPERIMENT FOR THE FIVE YEARS ENDING 1924.

	Name or No. of cane.	No. of experiments.	No. of years.	Canes, tons per acre.	Saccharose, lb. per gallon.	Glucose, lb. per gallon.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.
1	B. 268	9	5	27·41	1·95	·083	89·39	4·27	6,738
2	B. 39	11	5	26·97	1·96	·086	88·09	4·51	6,593
3	B.S.F. 12 (48) ...	5	5	27·24	2·02	·094	87·99	4·58	6,458
4	B. 117	5	5	25·02	2·20	·066	90·65	2·98	6,435
5	Ba. 11569	55	5	25·54	2·14	·071	89·79	3·37	6,424
6	B. 154	5	5	25·81	2·05	·054	91·73	2·63	6,195
7	B.H. 10 (12) ...	79	5	22·99	2·25	·071	90·29	3·19	6,178
8	B. 240	5	5	25·17	1·98	·076	90·27	3·95	6,019
9	B. 119	5	5	24·97	1·95	·053	89·65	2·72	5,936
10	B. 169	5	5	25·57	1·89	·087	88·09	4·87	5,817
11	B. 237	7	5	23·85	2·00	·093	88·06	4·81	5,750
12	Ba. 8069	26	5	23·70	1·98	·076	88·32	3·89	5,716
13	Ba. 6032	61	5	24·61	1·89	·074	87·84	4·01	5,715
14	B. 204	5	5	25·37	1·75	·140	84·18	8·81	5,640
15	Ba. 8409	17	5	23·75	1·99	·071	90·80	3·65	5,615
16	B. 164	5	5	23·53	2·05	·054	91·12	2·64	5,500
17	B. 67	47	5	21·10	2·01	·080	87·80	3·94	5,413
18	B.S.F. 12 (50) ...	14	5	25·00	1·74	·134	82·70	7·75	5,351
19	B. 163	5	5	25·62	1·81	·090	87·76	5·02	5,350
20	B. 199	5	5	22·69	1·85	·073	87·27	3·95	5,326
21	B. 177	5	5	24·20	1·91	·091	87·31	5·01	5,299
22	Ba. 12079	11	5	23·52	1·84	·096	85·88	5·00	5,285
23	Ba 7924	40	5	22·89	1·90	·060	88·43	3·14	5,212
24	B.S.F. 13 (14) ...	9	5	25·46	1·68	·103	79·83	6·28	5,209
25	Ba. 8846	5	5	20·50	2·12	·056	92·26	2·67	5,183
26	B. 85	9	5	22·56	2·04	·088	88·18	4·37	5,084
27	B. 6450	64	5	21·58	1·88	·078	86·57	4·11	5,077
28	B. 18	6	5	23·77	1·76	·091	86·07	5·35	4,039
29	Ba. 11403	20	5	19·64	2·13	·062	90·01	2·96	3,866
30	W. Transparent ...	85	5	19·27	1·93	·078	88·34	4·20	3,588
31	Bourbon	5	5	18·15	1·67	·090	83·47	5·39	3,086

TABLE XX. *Red Soils.*

VARIETIES ARRANGED ACCORDING TO YIELD OF SACCHAROSE PER ACRE FOR THE SEASON 1922-1924.

Name or No. of cane.	No. of estates.	No. of plots reaped.	Canes, tons per acre.	Saccharose, lb. per gallon.	Glucose, lb. per gallon.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.
			Plant Canes.					
B. 405	1	2	49·18	2·15	·057	88·10	2·65	14,321
B.H. 10 (12)	4	7	38·56	2·06	·094	88·41	4·66	10,904
Ba. 6032	4	7	39·71	1·71	·100	84·71	5·93	9,204
Ba. 11569	4	7	33·23	2·05	·086	88·89	4·24	8,916
B. 67	4	7	32·77	1·91	·090	86·90	4·76	8,900
Ba. 7924	3	5	34·75	1·83	·070	87·08	3·90	8,571
Ba. 12079	2	3	39·99	1·57	·061	79·73	3·87	8,244
B. 6450	4	7	33·10	1·79	·111	85·69	6·27	8,144
Ba. 11224	1	1	30·74	1·94	·083	84·30	4·30	7,578
Ba. 8069	1	2	30·62	1·79	·147	86·45	8·20	7,369
B.S.F. 12 (24)	1	1	30·82	1·61	·057	79·70	3·50	6,987
B. 39	1	1	27·53	1·64	·074	83·20	4·50	6,321
Ba. 2471	1	2	26·81	1·69	·138	81·05	8·35	5,868
W. Transparent ...	4	7	23·29	1·88	·101	88·71	5·37	5,754
			First Ratoons.					
B.H. 10 (12)	4	7	29·38	2·05	·085	86·76	4·11	7,962
Ba. 12079	2	3	28·73	1·90	·151	81·67	8·20	7,128
B. 67	4	7	25·55	1·96	·119	85·66	5·96	6,975
Ba. 11569	4	7	24·90	2·10	·103	87·97	4·86	6,786
Ba. 7924	3	5	23·83	1·92	·116	88·76	5·88	6,202
Ba. 6032	4	7	26·16	1·76	·086	85·01	4·86	6,194
B. 6450	4	7	23·83	1·86	·092	84·76	4·96	6,130
B.S.F. 12 (24)	1	1	18·82	1·83	·167	83·90	9·10	4,714
W. Transparent ...	4	7	18·32	1·89	·085	88·29	4·51	4,554
Ba. 11224	1	1	16·46	2·23	·066	93·30	3·00	4,536
Ba. 2471	1	2	25·53	1·22	·063	58·80	5·20	4,005
			Second Ratoons.					
B.H. 10 (12)	1	2	32·32	2·21	·120	90·00	5·45	9,440
Ba. 12079	1	2	35·01	1·94	·124	85·65	6·35	8,657
Ba. 7924	1	2	29·50	2·15	·122	90·90	5·65	8,501
B. 6450	1	2	29·15	2·04	·114	88·15	5·60	8,256
B. 67	1	2	29·78	1·92	·126	83·60	6·55	7,915
Ba. 6032	1	2	28·08	1·89	·117	84·80	6·20	7,158
W. Transparent ...	1	2	20·61	1·96	·114	86·85	5·85	5,265

As a considerable number of the planters in the island are now growing several of the newer seedling sugar-canes such as B.H. 10 (12), Ba. 6032, Ba. 7924, Ba. 11569, Ba. 12079, etc., it may not be without interest if the results obtained from some of these sugar-canes in the black and red soils over a number of years are compared with the White Transparent and B. 6450, the two canes used at the present time as standards. Each of these new varieties was grown on the same estates, in the same fields and under the same conditions as the White Transparent and B. 6450. The results for the black soils are given in Table XXI and those for the red soils in Table XXII. As will be seen from Table XXI under the conditions mentioned above, in the black soils the B.H. 10 (12) gave an increased yield in saccharose over the White Transparent of 2,866 lb. or 54·2 per cent. per acre and over the B. 6450 of 1,734 lb. or 27 per cent. Ba. 6032 gave an increased yield of 2,416 lb. of saccharose or 46·6 per cent. per acre over the White Transparent and 935 lb. of saccharose or 14 per cent. over the B. 6450; Ba. 7924, 1,858 lb. of saccharose or 34·1 per cent. per acre over the White Transparent and 482 lb. of saccharose or 7·1 per cent. over the B. 6450; Ba. 11569 an increase of 2,448 lb. of saccharose or 53·5 per cent. per acre over the White Transparent, and 1,315 lb. of saccharose or 23·0 per cent. over the B. 6450; Ba. 12079, an increase of 1,628 lb. of saccharose or 33·4 per cent. per acre over the White Transparent and 489 lb. of saccharose or 8·1 per cent. over the B. 6450. The other varieties, as will be seen from Table XXI although they gave considerable yields in saccharose over the White Transparent and B. 6450 have not come up to the yields of B.H. 10 (12), Ba. 6032 or Ba. 11569.

In the red soils, as will be seen from Table XXII, as plant canes, the B.H. 10 (12) gave an increased yield of 4,570 lb. of saccharose or 87·45 per cent. per acre over the White Transparent, and over the B. 6450 of 2,411 lb. of saccharose or 32·65 per cent.; Ba. 6032 gave an increased yield of 3,033 lb. of saccharose or 58·04 per cent. per acre over the White Transparent and 874 lb. of saccharose equal to 11·83 per cent. over the B. 6450; Ba. 11569 gave 2,979 lb. of saccharose or 59·51 per cent. per acre over the White Transparent and 893 lb. of saccharose or 12·59 per cent. over the B. 6450; Ba. 7924 gave 2,702 lb. of saccharose or 52·71 per cent. per acre increase over the White Transparent and 590 lb. of saccharose or 8·15 per cent. over the B. 6450. As will be seen from the same Table, as first ratoon, B.H. 10 (12) gave 2,903 lb. of saccharose or 59·86 per cent. per acre over the White Transparent and 1,973 lb. of saccharose or 34·13 per cent. over the B. 6450; Ba. 6032 gave an increase over the White Transparent of 1,428 lb. of saccharose or 29·76 per cent. per acre and 467 lb. of saccharose or 8·11 per cent. over the B. 6450; Ba. 11569 gave 1,111 lb. of saccharose or 25·35 per cent. per acre over the White Transparent and 482 lb. of saccharose or 9·62 per cent. over the B. 6450. Ba. 7924 gave an increase of 1,564 lb. of saccharose or 32·37 per cent. per acre over the White Transparent and 6·55 lb. of saccharose or 11·41 per cent. over the B. 6450.

As it has been stated that Ba. 6032 and Ba. 11569, owing to the drought, during the past few years, have given better results than the B.H. 10 (12) we give in Table XXIII the results obtained with these three seedling canes and three other varieties, viz., Ba. 8069, Ba. 7924, and Ba. 12079 over a number of years in the black soils. As will be seen therefrom, the B.H. 10 (12) has in every instance, except one, given higher yields of saccharose per acre than any of the other varieties, owing to the richer saccharose content of the juice. On the other hand, as will also be seen from the Table, Ba. 6032, Ba. 11569, Ba. 8069 and Ba. 12079 have given slightly better yields of sugar-canes per acre.

In Table XXIV will be found the results of the B.H. 10 (12), compared with the Ba. 6032, Ba. 11569 and Ba. 7924 in the red soils as plant canes and first ratoons, grown in the same fields and under the same conditions. As will be seen from the Table, as plant canes, the B.H. 10 (12) gave an increased yield over the Ba. 6032 of 1,510 lb. of saccharose or 18·28 per cent. per acre, an increase of 1,166 lb. of saccharose or 14·60 per cent. per acre over the Ba. 11569, and 1,868 lb. of saccharose or 23·88 per cent. over the Ba. 7924. In the case of the first ratoons, B.H. 10 (12) gave an increase over the Ba. 6032 of 1,407 lb. of saccharose or 22·59 per cent. per acre; an increase over the Ba. 11569 of 1,365 lb. of saccharose or 24·85 per cent. per acre and 1,318 lb. of saccharose or 20·61 per cent. per acre over the Ba. 7924.

TABLE XXI—WHITE TRANSPARENT AND B. 6450 COMPARED WITH SOME OF THE BETTER SEEDLING SUGAR-CANES GROWN IN THE SAME FIELDS IN THE BLACK SOILS DURING THE SEASONS 1913-15 TO 1922-24.

Name or No. of cane.	No. of seasons.	No. of experiments.	Canes, tons per acre.	Per cent. of juice by mill.	Normal Juice. Lb. per gallon. Saccharose.	Glucose.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.	Increase in saccharose, lb. per acre over White Transparent.	Increase in saccharose, lb. per acre over B. 6450.	Per cent. of increase over White Transparent.	Per cent. of increase over B. 6450.
White Transparent and B. 6450 compared with B.H. 10 (12) grown in the same field during the seasons 1913-1915 to 1922-1924.													
White Transparent	10	106	21·21	58·83	2·00	·071	81·35	3·59	5,285	...	...	...	...
B. 6450	10	106	25·74	60·51	1·97	·071	88·02	3·60	6,417	1,132	...	21·4	...
B.H. 10 (12)	10	106	28·24	60·02	2·30	·063	90·67	2·75	8,151	2,866	1,734	54·2	27·0
White Transparent and B. 6450 compared with Ba. 6032 grown in the same field during the seasons 1913-1915 to 1922-1924.													
White Transparent	10	133	31·32	58·29	1·97	·068	89·11	3·56	5,185	...	...	...	...
B. 6450	10	133	26·57	60·31	1·96	·068	88·02	3·54	6,666	1,481	...	28·6	...
Ba. 6032	10	133	31·15	59·42	1·94	·069	88·59	3·62	7,601	2,416	935	46·6	14·0
White Transparent and B. 6450 compared with Ba. 7924 grown in the same field during the seasons 1913-1915 to 1922-1924.													
White Transparent	10	78	22·28	58·91	1·97	·079	92·69	4·04	5,447	...	...	...	...
B. 6450	10	78	27·13	60·95	1·95	·077	87·66	3·88	6,823	1,376	...	25·3	...
Ba. 7924	10	78	28·57	59·43	1·96	·049	89·40	2·50	7,305	1,858	482	34·1	7·1
White Transparent and B. 6450 compared with Ba. 11403 grown in the same field during the seasons 1913-1915 to 1922-1924.													
White Transparent	10	25	19·88	57·73	1·87	·074	87·62	4·15	4,600	...	...	...	...
B. 6450	10	25	23·84	59·18	1·82	·086	86·00	4·56	5,515	915	...	19·9	...
Ba. 11403	10	25	22·08	56·71	2·16	·060	90·17	2·81	5,679	1,079	164	23·5	3·0
White Transparent and B. 6450 compared with Ba. 11569 grown in the same field during the seasons 1913-1915 to 1922-1924.													
White Transparent	10	71	19·20	57·22	1·98	·069	88·91	3·56	4,573	...	...	...	...
B. 6450	10	71	23·48	59·04	1·93	·074	87·37	3·83	5,706	1,133	...	24·8	...
Ba. 11569	10	71	27·47	57·31	2·15	·068	90·05	3·20	7,021	2,448	1,315	53·5	23·0

TABLE XXI—(*Concluded*). WHITE TRANSPARENT AND B. 6450 COMPARED WITH SOME OF THE BETTER SEEDLING SUGAR CANES GROWN IN THE SAME FIELDS IN THE BLACK SOILS DURING THE SEASONS 1913-15 TO 1922-24.

Name or No. of cane.	No. of seasons.	No. of experiments.	Canes, tons per acre.	Per cent. of juice by mill.	Normal Juice. Lb. per gallon. Saccharose.	Glucose.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.	Increase in saccharose, lb. per acre over White Transparent.	Increase in saccharose, lb. per acre over B. 6450.	Per cent. of increase over White Transparent.	Per cent. of increase over B. 6450.
White Transparent and B. 6450 compared with Ba. 12079 grown in the same field during the seasons 1913-1915 to 1922-1924.													
White Transparent ...	10	18	20·32	58·00	1·96	·074	88·02	3·84	4,869	...	...	...	...
B. 6450 ...	10	18	24·46	59·85	1·94	·074	87·29	3·86	6,008	1,139	...	23·4	...
Ba. 12079 ...	10	18	28·11	57·56	1·91	·095	85·98	4·98	6,497	1,628	489	33·4	8·1
White Transparent and B. 6450 compared with Ba. 8069 grown in the same field during the seasons 1913-1915 to 1922-1924.													
White Transparent ...	10	30	20·10	57·99	1·97	·074	86·00	3·73	4,926	...	...	...	...
B. 6450 ...	10	30	24·73	59·45	1·93	·072	87·65	3·76	6,099	1,173	...	23·8	...
Ba. 8069 ...	10	30	25·18	58·89	1·92	·076	88·25	3·87	6,212	1,286	113	26·1	1·9
White Transparent and B. 6450 compared with Ba. 8409 grown in the same field during the seasons 1913-1915 to 1922-1924.													
White Transparent ...	10	22	20·22	87·05	1·93	·077	89·64	3·97	4,862	...	...	...	...
B. 6450 ...	10	22	24·90	88·25	1·89	·074	87·85	3·94	5,983	1,121	...	23·1	...
Ba. 8409 ...	10	22	25·62	85·67	1·99	·071	90·32	3·63	6,186	1,324	203	27·2	3·4
White Transparent and B. 6150 compared with B.S.F. 12 (48) grown in the same field during the seasons 1914-1916 to 1922-1924.													
White Transparent ...	9	9	23·36	59·40	1·91	·067	88·55	3·53	5,585	...	...	...	...
B. 6450 ...	9	9	27·33	60·06	1·89	·076	87·03	4·00	6,530	945	...	16·9	...
B.SF. 12 (48) ...	9	9	29·43	58·03	2·06	·103	87·09	5·14	7,186	1,601	656	28·7	10·0
White Transparent and B. 6450 compared with B. 117 and B. 119 grown in the same field during the seasons 1918-1920 to 1922-1924.													
White Transparent ...	5	5	23·39	53·85	1·80	·078	86·79	4·36	5,094	...	...	...	...
B. 6450 ...	5	5	26·49	58·65	1·78	·082	85·58	4·61	5,867	773	...	15·2	...
B. 117 ...	5	5	25·12	56·25	2·20	·066	90·65	2·98	6,435	1,341	568	26·8	9·7
B. 119 ...	5	5	24·97	58·10	1·95	·053	89·65	2·72	5,936	842	69	16·5	1·2

TABLE XXII—WHITE TRANSPARENT AND B. 6450 COMPARED WITH SOME OF THE BETTER SEEDLING SUGAR-CANES GROWN IN THE SAME FIELDS IN THE RED SOILS DURING THE SEASONS 1916-18 TO 1917-19 AND 1919-21 TO 1922-24.

Name or No. of cane.	No. of seasons.	No. of experiments.	Canes, tons per acre.	Normal Juice. lb. per gallon. Saccharose.	Glucose.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.	Increase in saccharose, lb. per acre over White Transparent.	Increase in saccharose, lb. per acre over B. 6450.	Per cent. of increase over White Transparent.	Per cent. of increase over B. 6450.
PLANT CANES.												
White Transparent and B.6450 compared with B.H. 10 (12) grown in the same fields during the seasons 1916-18 to 1917-19 and 1919-21 to 1922-24.												
White Transparent	6	42	22·28	1·88	·069	89·75	3·67	5,226	...	...	...	...
B. 6450	6	42	29·58	1·90	·071	88·94	3·84	7,385	2,159	...	41·31	...
B.H. 10 (12)	6	42	36·10	2·12	·064	90·52	3·23	9,796	4,570	2,411	87·45	32·65
White Transparent and B. 6450 compared with Ba. 6032 grown in the same fields during the seasons 1916-18 to 1917-19 and 1919-21 to 1922-24.												
White Transparent	6	42	22·28	1·88	·069	89·75	3·67	5,226	...	...	...	...
B. 6450	6	42	29·58	1·90	·071	88·94	3·84	7,385	2,159	...	41·31	...
Ba. 6032	6	42	34·81	1·86	·068	88·68	3·88	8,259	3,033	874	58·04	11·83
White Transparent and B. 6450 compared with Ba. 11569 grown in the same fields during the seasons 1916-18 to 1917-19 and 1919-21 to 1922-24.												
White Transparent	6	30	21·46	1·88	·071	89·63	3·78	5,006	...	...	...	...
B. 6450	6	30	28·26	1·89	·075	88·74	4·01	7,092	2,086	...	41·67	...
Ba. 11,569	6	30	31·03	2·09	·070	91·26	3·42	7,985	2,979	893	59·51	12·59
White Transparent and B. 6450 compared with Ba. 7924 grown in the same fields during the seasons 1916-18 to 1917-19 and 1919-21 to 1922-24.												
White Transparent	6	38	22·10	1·87	·066	89·49	3·53	5,126	...	...	...	...
B. 6450	6	38	29·33	1·89	·067	88·69	3·38	7,238	2,112	...	41·20	...
Ba. 7924	6	38	32·61	1·90	·058	89·87	3·10	7,828	2,702	590	52·71	8·15

TABLE XXII.—*(Concluded)*—WHITE TRANSPARENT AND B. 6450 COMPARED WITH SOME OF THE BETTER SEEDLING SUGAR-CANES GROWN IN THE SAME FIELDS IN THE RED SOILS DURING THE SEASONS 1916-18 TO 1917-19 AND 1919-21 TO 1922-24.

Name or No. of cane.	No. of seasons.	No. of experiments.	Canes, tons per acre.	Normal Juice. lb. per gallon. Saccharose.	Normal Juice. lb. per gallon. Glucose.	Normal Juice. Quotient of purity.	Normal Juice. Glucose ratio.	Saccharose, lb. per acre.	Increase in saccharose, lb. per acre over White Transparent.	Increase in saccharose, lb. per acre over B. 6450.	Per cent. increase over White Transparent.	Per cent. increase over B. 6450
FIRST RATOONS.												
White Transparent and B. 6450 compared with B. H. 10 (12) grown in the same fields during the seasons 1916-18 to 1917-19 and 1919-21 to 1922-24.												
White Transparent	6	42	20·75	1·88	·071	90·18	3·78	4,850	...	...	...	...
B. 6450	6	42	24·08	1·85	·074	88·09	4·03	5,780	930	...	19·18	...
B. H. 10 (12) ...	6	42	29·51	2·09	·065	90·21	3·23	7,753	2,903	1,973	59·86	34·13
White Transparent and B. 6450 compared with Ba. 6032 grown in the same fields during the seasons 1916-18 to 1917-19 and 1919-21 to 1922-24.												
White Transparent	6	40	20·62	1·88	·072	90·12	3·84	4,799	...	...	...	...
B. 6450	6	40	24·06	1·85	·074	88·02	4·12	5,760	961	...	20·02	...
Ba. 6032	6	40	27·22	1·78	·080	87·54	4·56	6,227	1,428	467	29·76	8·11
White Transparent and B. 6450 compared with Ba. 11569 grown in the same fields during the seasons 1916-18 to 1917-19 and 1919-21 to 1922-24.												
White Transparent	6	26	19·00	1·85	·074	89·98	3·98	4,382	...	...	...	...
B. 6450	6	26	21·74	1·82	·079	87·26	4·35	5,011	629	...	14·35	...
Ba. 11569	6	26	22·62	2·01	·078	89·60	3·88	5,493	1,111	482	25·35	9·62
White Transparent and B. 6450 compared with Ba. 7924 grown in the same fields during the seasons 1916-18 to 1917-19 and 1919-21 to 1922-24.												
White Transparent	6	40	20·71	1·89	·070	90·40	3·73	4,831	...	...	...	...
B. 6450	6	40	23·86	1·86	·074	88·50	4·08	5,740	909	...	18·81	...
Ba. 7924	6	40	26·75	1·90	·067	90·47	3·58	6,395	1,564	655	32·37	11·41

TABLE XXIII—THE B.H. 10 (12) COMPARED WITH CERTAIN OTHER OF THE BETTER SEEDLING SUGAR-CANES IN THE BLACK SOILS FOR THE SEASONS 1916-18 TO 1922-24.

Name or No. of Cane.	No. of seasons.	No. of experiments.	Canes, tons per acre.	Normal Juice. lb. per gallon of Saccharose.	Normal Juice. lb. per gallon of Glucose.	Normal Juice. Quotient of Purity.	Normal Juice. Glucose ratio.	Saccharose, lb. per acre.	Increase or decrease of saccharose, lb. per acre.	Per cent. of increase or decrease.
B.H. 10 (12) compared with Ba. 6032 grown in the	same	fields	during	the seasons 1916-18 to 1922-24.						
B.H. 10 (12)	7	107	28·32	2·30	·058	90·80	2·53	7,761	507	7·0
Ba. 6032	7	107	29·95	1·94	·069	88·51	3·67	7,254	...	...
B.H. 10 (12) compared with Ba. 7924 grown in the	same	fields	during	the seasons 1917-19 to 1922-24.						
B.H. 10 (12)	6	79	28·12	2·28	·060	90·94	2·55	7,958	1,588	24·9
Ba. 7924	6	79	26·50	1·96	·052	89·14	2·70	6,370	...	...
B.H. 10 (12) compared with Ba. 11569 grown in the	same	fields	during	the seasons 1917-19 to 1922-24.						
B.H. 10 (12)	6	71	24·59	2·32	·063	91·99	2·71	6,813	- 45	- ·66
Ba. 11569	6	71	27·08	2·21	·070	89·90	3·29	6,858	...	...
B.H. 10 (12) compared with Ba. 8069 grown in the	same	fields	during	the seasons 1917-19 to 1922-24.						
B.H. 10 (12)	6	28	24·39	2·26	·069	90·89	3·05	6,699	591	9·6
Ba. 8069	6	28	24·94	1·99	·075	88·46	3·81	6,108	...	...
B.H. 10 (12) compared with Ba. 12079 grown in the	same	fields	during	the seasons 1917-19 to 1922-24.						
B.H. 10 (12)	6	17	25·38	2·24	·068	90·37	2·77	6,921	905	15·0
Ba. 12079	6	17	26·36	1·91	·090	85·93	4·70	6,016	...	...

TABLE XXIV—THE B.H. 10 (12) COMPARED WITH CERTAIN OTHER OF THE BETTER SEEDLING SUGAR-CANES IN THE RED SOILS FOR THE SEASONS 1916-18 TO 1917-19 AND 1919-21 TO 1922-24.

Name or No. of cane.	No. of seasons.	No. of experiments.	Canes, tons per acre.	Normal Juice. lb. per gallon. Saccharose.	Glucose.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.	Increase, saccharose lb. per acre.	Increase, per cent.
PLANT CANES.										
B.H. 10 (12) compared with Ba. 6032 grown in the same fields during the seasons 1916-18 to 1917-19 and 1919-21 to 1922-24.										
B.H. 10 (12)	6	42	36·10	2·12	·064	90·52	3·23	9,769	1,510	18·28
Ba. 6032	6	42	34·81	1·86	·068	88·68	3·88	8,259	...	...
B.H. 10 (12) compared with Ba. 11569 grown in the same fields during the seasons 1916-18 to 1917-19 and 1919-21 to 1922-24.										
B.H. 10 (12)	6	30	33·53	2·13	·067	90·97	3·26	9,151	1,166	14·60
Ba. 11569	6	30	31·03	2·09	·070	91·26	3·42	7,985	...	...
B.H. 10 (12) compared with Ba. 7924 grown in the same fields during the seasons 1916-18 to 1917-19 and 1919-21 to 1922-24.										
B.H. 10 (12)	6	38	35·79	2·12	·059	90·54	2·99	9,692	1,868	23·88
Ba. 7924	6	38	32·61	1·90	·058	89·87	3·10	7,824	...	...
FIRST RATOONS.										
B.H. 10 (12) compared with Ba. 6032 grown in the same fields during the seasons 1916-18 to 1917-19 and 1919-21 to 1922-24.										
B.H. 10 (12)	6	40	29·23	2·08	·066	90·17	3·29	7,634	1,407	22·59
Ba. 6032	6	40	27·22	1·78	·080	87·54	4·58	6 227	...	...
B.H. 10 (12) compared with Ba. 11569 grown in the same fields during the seasons 1916-18 to 1917-19 and 1919-21 to 1922-24.										
B.H. 10 (12)	6	26	26·94	2·06	·063	88·45	3·27	6,858	1,365	24·85
Ba. 11569	6	26	22·62	2·01	·078	89·60	3·88	5,493	...	...
B.H. 10 (12) compared with Ba. 7924 grown in the same fields during the seasons 1916-18 to 1917-19 and 1919-21 to 1922-24.										
B.H. 10 (12)	6	40	29·33	2·09	·065	90·44	3·19	7,713	1,318	20·61
Ba. 7924	6	40	26·75	1·90	·067	90·47	3·58	6,395	...	...

EXPERIMENTS CARRIED OUT ON DIFFERENT ESTATES WITH A NUMBER OF THE BETTER VARIETIES OF THE SEEDLING SUGAR-CANES.

With the object of ascertaining the suitability of the best of the various seedling sugar-canes grown, a number of experiments are carried out at the Government Industrial Schools and also, with the help of certain planters, in the different districts of the island. As the results obtained are of special value to the sugar-cane growers of the districts in which these seedlings are grown the data is given in Tables XXV to XLV.

TABLE XXV—DODDS PLANTATION: UPPER CHAPEL FIELD. 1922—1924.

Plant Canes.

Name or No. of cane.	No. of canes per acre	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C. 16·6° C.	lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius saccheri*, Wakker.	Presence of insect pests per acre. *Diapreses abbreviatus*, Linn.	*Phytalus smithi*, Arrow.	Total.
W. Transparent	16,839	25·86	11·21	60·00	1·0738	1·73	·083	·207	85·6	4·8	3,237	5,600	V. Bad.	581	871	1,452
*Bourbon	18,195	26·05	10·11	60·25	1·0756	1·69	·109	·271	81·6	6·4	3,269	5,525	V. Bad.	677	774	1,451
P.H. 10 (12)	20,150	29·97	1·44	57·50	1·0870	2·16	·054	·156	91·1	2·5	3,551	7,670	Bad.	871	813	1,684
P. 18	17,927	22·61	14·98	60·75	1·0738	1·69	·096	·231	83·7	5·7	2,866	4,844	V. Bad.	726	581	1,307
B. 39	20,207	31·73	2·07	57·75	1·0773	1·83	·081	·199	86·7	4·4	3,723	6,813	Moderate.	418	418	836
B. 67	20,724	32·05	4·93	60·00	1·0782	1·82	·074	·246	85·0	4·1	3,995	7,271	Bad.	360	841	1,201
B. 85	23,228	28·13	2·25	53·75	1·0800	1·90	·083	·197	87·2	4·4	3,136	5,958	Slight.	871	465	1,336
B. 117	17,913	30·20	3·88	58·00	1·0844	2·07	·069	·161	90·0	3·3	3,703	7,665	Moderate.	813	639	1,452
B. 119	20,130	29·09	7·37	55·25	1·0800	1·99	·046	·144	91·3	2·3	3,333	6,633	Moderate.	839	387	1,226
B. 154	17,246	28·85	6·40	58·00	1·0933	2·34	·050	·150	92·1	2·1	3,130	8,026	Slight.	755	755	1,510
B. 163	16,201	27·22	6·09	57·00	1·0738	1·75	·081	·189	86·6	4·6	3,244	5,677	Slight.	290	871	1,161
B. 164	19,511	30·07	3·27	56·50	1·0809	2·02	·050	·140	91·4	2·5	3,521	7,112	Slight.	465	523	988
B. 381	19,685	36·73	12·98	57·50	1·0791	1·99	·089	·101	92·1	3·5	4,385	8,726	Moderate.	523	232	755
B. 391	24,505	34·12	4·03	53·75	1·0782	1·95	·071	·119	91·1	3·6	3,810	7,430	Moderate.	1,161	813	1,974
B. 6450	22,240	32·92	5·48	55·00	1·0773	1·85	·074	·186	87·7	4·0	3,765	6,965	Slight.	1,045	987	2,032
Ba. 6032	21,834	42·93	10·90	56·00	1·0729	1·76	·100	·140	88·0	5·7	5,025	8,844	Slight.	232	232	464
Ba. 7924	23,588	32·37	4·00	50·75	1·0782	1·93	·048	·162	90·2	2·5	3,413	6,587	Moderate.	798	436	1,234
Ba. 8069	16,724	30·82	6·25	52·25	1·0782	1·84	·076	·224	86·0	4·1	3,346	6,158	Slight.	232	348	580
Ba. 8469	20,905	28·18	3·33	58·00	1·0765	1·83	·093	·167	87·6	5·1	3,401	6,224	Slight.	465	465	930
Ba. 8846	14,633	17·39	1·58	58·00	1·0826	2·04	·068	·142	90·7	3·3	2,088	4,260	Moderate.	174	406	580
Ba. 11403	17,246	22·94	1·35	52·00	1·0844	2·10	·057	·143	91·3	2·7	2,464	5,174	Moderate.	58	813	871
Ba. 11569	25,114	39·80	12·14	49·75	1·0853	1·79	·063	·467	77·2	3·5	4,086	7,314	Slight.	581	581	1,162
Ba. 12079	28,047	26·36	2·69	49·50	1·0841	2·11	·047	·143	91·7	2·2	2,696	5,689	Bad.	465	1,045	1,510
B.S.F. 12 (48)	21,079	27·97	4·72	51·50	1·0791	1·83	·076	·254	84·7	4·2	2,991	5,474	Bad.	407	348	755
B.S.F. 12 (50)	20,208	27·71	6·03	56·25	1·0729	1·59	·074	·336	79·5	4·7	3,255	5,176	Moderate.	1,394	697	2,091
Uba	43,378	24·76	14·17	40·00	1·0809	1·78	·083	·347	80·5	4·7	2,052	3,653	V. Bad.	465	523	988

**Colletotrichum Falcatum.*

TABLE XXVI—DODDS PLANTATION: UPPER BAY TREE FIELD. 1922 - 1924.

Plant Canes.

Name or No. of Cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. of juice by mill.	Normal Juice. Sp. Gr. 30°C./16·6°C.	lb. per gallon of Saccharose.	Glucose.	Solids not Sugar.	Quotient of Purity.	Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Mycosmius sacchari*, Walker.	Presence of insect pests per acre. *Diapreps Abbreviatus*, Linn	*Phytalus Smithi*, Arrow.	Total.
W. Transparent	15,098	22·94	5·00	63·25	1·0809	2·02	·069	·121	91·4	3·4	3,007	6,074	Moderate.	523	813	1,336
B.H. 10 (12)	17,479	26·31	1·66	61·50	1·0924	2·23	·083	·197	88·8	3·7	3,318	7,399	Slight.	639	523	1,162
B. 161	18,452	27·02	3·49	60·00	1·0791	1·95	·050	·160	90·3	2·6	3,365	6,562	Slight.	323	258	581
B. 177	18,559	26·17	3·97	58·50	1·0817	2·04	·056	·134	91·5	2·7	3,171	6,469	V. Slight.	603	335	938
B. 204	22,579	28·71	4·15	66·00	1·0756	1·81	·071	·189	87·4	3·9	3,947	7,144	Slight.	134	None	134
B. 237	18,023	22·13	12·64	60·25	1·0835	1·94	·114	·226	85·1	5·9	2,757	5,349	Slight.	603	402	1,005
B. 240	23,182	24·55	2·31	59·75	1·0814	2·09	·083	·127	90·9	4·0	3,031	6,335	Slight.	536	335	871
B. 368	21,574	27·82	1·24	60·50	1·0782	1·88	·083	·177	87·9	4·4	3,496	6,573	Slight.	469	268	737
B. 374	18,640	25·27	1·56	58·25	1·0844	2·10	·074	·126	91·3	3·5	3,041	6,386	Slight.	871	465	1,336
B. 396	19,649	22·05	5·67	58·00	1·0906	2·25	·060	·160	91·1	2·7	2,627	5,911	Slight.	318	627	975
B. 397	23,634	27·06	1·97	59·75	1·0924	2·27	·074	·166	90·4	3·3	3,316	7,527	V. Slight.	465	581	1,046
B. 409	22,343	28·06	·68	59·25	1·0924	2·32	·066	·124	92·4	2·8	3,332	7,730	Slight.	606	530	1,136
B. 425	18,321	29·63	7·54	63·50	1·0835	2·10	·064	·116	92·1	3·0	3,890	8,169	Moderate.	841	120	961
Ba. 819	20,440	26·18	3·41	59·50	1·0782	1·89	·114	·136	87·9	6·0	3,237	6,118	Slight.	639	581	1,220
S.C. $\frac{12}{4}$	23,083	35·05	3·30	60·75	1·0879	2·22	·045	·125	92·9	2·0	4,384	9,733	Slight.	871	327	1,198

DODDS PLANTATION: LOWER CHAPEL FIELD.

Name or No. of cane	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. of juice by mill.	NORMAL JUICE. Sp. Gr. 30° C. / 16·6° C.	lb. per gallon. Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests per acre. *Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.	Total.
W. Transparent	17,613	22·77	6·59	59·25	1·0765	1·77	·147	·173	84·7	8·3	2,807	4,968	Mod. bad	387	387	774
B.H. 10 (12)	17,653	25·02	4·93	64·00	1·0906	2·18	·081	·209	88·3	3·7	3,288	7,168	Slight.	1,394	232	1,626
B. 454	20,902	29·08	8·93	64·00	1·0844	1·97	·083	·247	85·7	4·2	3,844	7,573	Moderate.	747	622	1,369
B. 458	16,549	25·85	3·85	60·75	1·0773	1·66	·139	·311	78·7	8·4	3,265	5,420	Slight.	639	639	1,278
B. 465	23,053	31·14	3·77	62·00	1·0870	2·17	·056	·144	91·6	2·6	4,362	9,466	Moderate	407	755	1,162
B. 466	20,905	25·41	2·22	60·75	1·0773	1·73	·227	·153	82·0	13·1	3,209	5,552	Moderate.	755	639	1,394
B. 468	20,440	21·85	2·84	59·75	1·0870	2·04	·132	·198	86·1	6·5	2,691	5,490	Slight.	1,278	1,452	2,730
B. 472	18,053	29·09	5·26	63·25	1·0853	2·14	·045	·135	92·2	2·1	3,798	8,128	Moderate.	1,029	713	1,742
B. 491	27,060	28·96	5·58	58·25	1·0791	1·87	·104	·186	86·6	5·6	3,501	6,547	Moderate.	755	581	1,336
B. 494	23,692	31·50	5·83	60·75	1·0942	2·32	·083	·157	90·6	3·6	3,917	9,087	Moderate.	465	465	930

TABLE XXVIII—DODDS PLANTATION—CAT HOLE FIELD. 1922-1924.

Plant Canes.

Name or No. of Cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30°C./16·6°C.	lb. per gallon of: Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests per acre. *Diagrepes abbreviatus* Linn.	*Phytalus smithi*, Arrow.	Total.
W. Transparent	17,605	32·21	2·12	56·25	1·0844	1·99	·109	·201	86·5	5·5	3,743	7,449	Moderate.	311	249	560
P.H. 10 (12)	18,292	33·31	2·22	60·00	1·0915	2·04	·139	·311	81·9	6·8	4,162	8,368	Slight.	174	290	464
B. 505	20,540	25·53	2·46	60·50	1·0897	2·24	·083	117	91·8	3·7	3,175	7,112	Moderate.	508	581	1,089
B. 506	18,408	22·96	2·83	56·75	1·0942	2·35	·071	·139	91·8	3·0	2,669	6,272	Moderate.	755	174	929
B. 512	19,918	26·36	4·96	61·25	1·0844	2·11	·076	·114	91·7	3·6	3,336	7,039	Slight.	232	581	813
B. 516	22,995	26·91	11·62	60·25	1·0879	2·17	·064	·156	90·8	2·9	3,338	7,244	Slight.	232	232	464
B. 525	22,388	20·54	2·88	59·00	1·0844	2·05	057	·193	89·1	2·8	2,503	5,131	Moderate.	452	387	839
B. 526	16,724	19·70	3·47	52·50	1·0906	2·27	·063	·137	91·9	2·8	2,125	4,824	Slight.	465	465	930
B. 537	16,201	29·42	8·24	62·00	1·0782	1·82	·104	·216	85·0	5·7	3,790	6,898	Slight.	465	581	1,046
B. 542	16,259	19·65	3·57	60·25	1·0844	2·00	·132	·168	87·0	6·6	2,446	4,892	V. Slight.	639	116	755
B. 549	23,576	32·56	5·42	63·50	1·0817	1·99	·100	·140	89·2	5·0	4,282	8,521	V. Slight.	639	58	697
B. 554	11,730	19·10	5·94	62·50	1·0800	2·00	·061	·119	91·7	3·1	2,477	4,954	Moderate.	232	871	1,103

TABLE XXIX—DODDS PLANTATION : HOUSE FIELD. 1922—1924.

Plant Canes.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30°C./16·6°C.	lb. per gallon of Saccharose.	lb. per gallon of Glucose.	lb. per gallon of Solids not sugar.	Quotient of Purity.	Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests per acre. *Diaprepes abbrevatus*, Linn.	*Phytalus smithi*, Arrow.	Total.
W. Transparent	18,922	28·85	5·71	61·75	1·0800	1·93	·100	·150	88·5	5·2	3,696	7,133	Bad.	721	481	1,202
B.H. 10 (12)	22,173	34·12	5·94	61·00	1·0924	2·29	·074	·146	91·2	3·2	4,306	9,861	Moderate.	523	929	1,452
B. 571	20,664	35·18	9·88	61·75	1·0694	1·68	·083	·137	88·4	4·9	4,551	7,646	Slight.	781	601	1,382
B. 572	18,101	27·48	7·95	62·75	1·0729	1·77	·100	·130	88·5	5·6	3,601	6,374	Moderate.	454	1,136	1,590
B. 573	17,130	27·03	8·47	62·75	1·0691	1·65	·093	·157	86·8	5·6	3,552	5,861	Moderate.	726	1,016	1,742
B. 587	20,828	24·17	7·63	56·25	1·0738	1·77	·081	·169	87·6	4·6	2,837	5,022	Moderate.	303	833	1,136
B. 588	22,298	32·02	2·60	59·75	1·0712	1·64	·147	·163	84·1	9·0	4,000	6,560	Slight.	232	639	871
B. 591	22,762	27·73	3·57	56·00	1·0782	1·89	·078	·172	88·3	4·1	3,227	6,099	Mod. Bad.	929	581	1,510
B. 593	24,215	33·00	4·56	57·25	1·0773	1·81	·089	·211	85·8	4·9	3,928	7,110	Slight.	406	348	754
B. 599	18,085	27·14	5·04	53·00	1·0782	1·89	·086	·164	88·3	4·6	2,989	5,649	Moderate.	743	498	1,241
B. 600	33,316	39·54	3·16	65·00	1·0809	1·98	·081	·149	89·6	4·1	5,327	10,547	Slight.	402	1,608	2,010
B. 601	18,540	28·22	4·03	58·75	1·0809	2·03	·054	·126	91·9	2·7	3,435	6,973	Slight.	996	498	1,494
B. 603	20,031	44·07	4·03	63·00	1·0817	2·03	·081	·119	91·0	4·0	5,750	11,673	Slight.	809	435	1,244

TABLE XXX.—HAMPTON PLANTATION—PARNELL VALLEY FIELD. 1922-1924.

Plant Canes.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C./16·6° C.	lb. per gallon of Saccharose.	lb. per gallon of Glucose.	lb. per gallon of Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests. *Diapepes abbreviatus*, Linn.	Presence of insect pests. *Phytalus smithi*, Arrow.
W. Trans.	14,317	20·16	2·25	65·50	1·0870	2·18	·045	·145	92·0	2·1	2,722	5,934	Moderate	D.a.	P.s.
B.H. 10 (12)	13,429	21·57	1·80	58·50	1·0942	2·35	·042	·168	91·8	1·8	2,583	6,070	Slight	D.a.	P.s.
B. 18	17,220	22·59	1·17	61·00	1·0809	1·92	·051	239	86 9	2·7	2,856	5,484	Slight	D.a.	P.s.
B. 405	15,002	25·31	·53	60·00	1·0906	2·25	·012	·178	91·1	1·9	3,119	7,018	Slight	D.a.	P.s.
B. 2001	16,656	20·81	3·59	59·25	1·0853	2·06	·051	·209	88·8	2·5	2,545	5,243	Slight	D.a.	P.s.
B. 6450	14,518	22·41	3·05	59·50	1·0853	2·06	·053	·207	88·8	2·6	2,753	5,671	Slight	D.a.	P.s.
B. 14761	12,381	21·32	·64	60·75	1·0861	2·01	·043	·297	85·5	2·1	2,671	5,369	Slight	D.a.	P s.
Ba. 2471	20,044	13·41	1·41	53·25	1·0870	2·11	·048	·212	89·0	2·3	1,472	3,106	Moderate	D.a.	P.s.
Ba. 6032	16,293	28·66	3·71	60·00	1·0765	1 87	·058	·162	89 5	3·1	3 579	6,693	Slight	D.a.	Free.
Ba 8069	15,285	25·66	·52	58·50	1·0844	2·06	·053	·187	89·6	2·6	3,100	6,386	Slight	D.a.	P.s.
Ba. 11569 ... ... _	19,237	28·93	2·93	57·00	1·0853	2·12	·066	·134	91·4	3·1	3,404	7,217	Slight	D.a.	P.s.

TABLE XXXI—CARRINGTON PLANTATION: SOUTH FOURTEEN ACRE FIELD. 1922—1924.

Plant Canes.

Name or No. of cane.		No. of canes per acre.	Weight in Tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests.	
			Canes.	Tops.	Produce.			Sp. Gr. 30°C./15·6°C.	lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diapreppes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
									Saccharose.	Glucose.	Solids not sugar.							
W. Transparent	Series i ..	16,649	26·25	1·00	30·25	5·23	63·50	1·0835	2·08	·057	·143	91·2	2·7	3,419	7,112	Moderate.	D.a.	P.s.
	Series ii ...	17,424	26·59	3·81	30·20	3·31	63·50	1·0853	2·06	·083	·177	88·8	4·0	3,404	7,012	Moderate.	Free.	P.s.
	Mean ..	...	26·42	3·81	30·23	...	...	...	2·07	...	...	90·00	...	...	7,062	...	...	...
B.H. 10 (12) ...	Series i ...	17,030	30·92	4·19	35·11	5·82	63·50	1·0942	2·33	·089	·111	91·0	3·8	4,019	9,364	Moderate.	Free.	Free.
	Series ii	12,390	27·76	4·39	32·15	5·85	62·75	1·0933	2·35	·049	·141	92·5	2·1	3,570	8,390	Slight.	D.a.	P.s.
	Mean ...	...	29·34	4·29	33·63	..	...	...	2·34	...	...	91·75	...	...	8,877	..	...	...
B. 39 ...	Series i ...	21,780	29·83	6·44	36·27	3·31	64·25	1·0826	2·00	·068	·182	88·9	3·4	3,964	7,928	Slight.	Free.	P.s.
	Series ii ...	20,957	32·37	5·12	37·49	6·93	63·75	1·0826	1·97	·069	·211	87·6	3·5	4,269	8,410	Slight.	D.a	P.s.
	Mean ..	...	31·10	5·78	36·88	..	..	...	1·99	...	...	88·25	-	...	8,169	...	...	...
B. 67 ...	Series i ..	17,520	31·20	4·41	35·61	4·43	67·50	1·0814	2·06	·063	·177	89·6	3·1	4,350	8,961	V. Slight.	D.a.	Free.
	Series ii ..	13,358	27·83	4·62	32·45	17·39	67·00	1·0870	2·00	·119	·251	84·4	6·0	3,842	7,684	Slight.	D.a.	P.s.
	Mean ..	...	29·52	4·53	34·05	..	..	...	2·03	...	...	87·00	...	..	8,323	..	...	...
B. 409 ...	Series i ...	25,942	32·19	4·90	37·09	10·63	62·00	1·0915	2·30	·049	·141	92·4	2·1	4,096	9,421	Moderate.	Free.	P.s.
	Series ii ..	19,989	30·27	4·19	34·46	7·99	60·75	1·0933	2·34	·056	·141	92·1	2·4	3,768	8,817	Moderate.	D.a.	P.s.
	Mean ...	...	31·23	4·70	35·93	...	...	..	2·32	...	...	92·25	...	...	9,119	...	...	...
B. 423 ...	Series i ...	15,197	28·24	3·20	31·44	3·82	58·50	1·0888	2·25	·041	·129	93·0	1·8	3,399	7,648	Slight.	Free.	P.s
	Series ii ...	16,891	31·35	4·26	35·61	1·43	60·50	1·0915	2·27	·047	·173	91·2	2·1	3,893	8,838	V. Slight.	D.a.	P.s.
	Mean ..		29·80	3·73	33·53	...	...	...	2·26	...	..	92·10	..	..	8,243	...	...	...
B. 6450 ...	Series i ..	19,747	28·69	4·86	33·55	3·43	60·25	1·0800	1·94	·074	·166	89·0	3·8	3,586	6,957	Slight.	Free.	P.s.
	Series ii .	16,117	28·84	4·34	33·18	6·31	64·00	1·0844	1·99	·081	·229	86·5	4·1	3,813	7,588	Slight.	D.a.	P.s.
	Mean ...	...	28·77	4·60	33·37	...	...	...	1·97	..	...	87·75	...	...	7,273	...	...	...

TABLE XXXI—(*Concluded*)—CARRINGTON PLANTATION: SOUTH FOURTEEN ACRE FIELD 1922—1924.

Plant Canes.

Name or No. of cane.	No. of canes per acre.	Weight in Tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests.	
		Canes.	Tops.	Produce.			Sp. Gr. $\frac{30°C.}{16·6°C.}$	lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diapreps abbreviatus*, Linn.	*Phytalus Smithi*, Arrow.
								Saccharose.	Glucose.	Solids not sugar.							
Ba. 6032 ... Series i	19,795	36·97	4·54	41·31	·18	64·25	1·0791	1·93	·061	·169	89·4	3·2	4,931	9,517	V. Slight.	Free.	P.s.
Series ii ...	11,761	32·12	4·04	36·16	4·94	63·00	1·0844	2·06	·066	·174	89·6	3·2	4,181	8,613	V. Slight.	D.a.	P.s.
Mean ..	...	34·55	4·19	38·74	...	...	...	2·00	...	...	89·50	...	...	9,065	...	...	...
Ba. 7924 ... Series i	19,211	31·31	4·75	36·06	1·52	63·50	1·0791	1·94	·018	·172	89·8	2·5	4,127	8,006	Slight.	Free.	P.s.
Series ii	21,005	31·46	4·21	35·67	2·76	61·00	1·0791	1·87	·081	·209	86·6	4·3	3,984	7,449	Moderate.	D.a.	P.s.
Mean ..	..	31·39	4·48	35·87	..	...	...	1·91	...	...	88·20	...	...	7,728	...	...	...
Ba. 8069 ... Series i ..	16,746	29·93	3·93	33·86	8·09	62·75	1·0844	2·01	·066	·194	88·7	3·2	3,879	7,913	Slight.	Free.	Free.
Series ii ..	17,617	25·17	2·96	28·13	3·57	62·25	1·0844	2·05	·064	·186	89·1	3·1	3,237	6,636	V. Slight.	D.a.	P.s.
Mean ...	...	27·55	3·45	31·00	..	...	...	2·05	...	...	88·90	...	...	7,275	...	...	—
Ba. 11369 ... Series i ...	20,860	33·02	5·79	41·81	3·25	63·00	1·0879	2·20	·114	·076	92·0	5·2	5,062	11,136	V. Slight.	Free.	P.s.
Series ii ...	15,584	29·45	4·15	33·60	3·73	63·00	1·0888	2·19	·071	·159	90·5	3·2	3,817	8,359	Slight.	D.a.	P.s.
Mean ...	...	34·24	4·97	39·21	..	..	...	2·20	...	...	91·25	...	...	9,748	...	...	...

TABLE XXXII—HANNAYS PLANTATION: LOWER CUT HILL FIELD. 1922–1924.

Plant Canes.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C. / 16·6° C.	lb. per gallon of: Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests: *Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
W. Transparent	13,349	22·24	7 25	64·50	1·0809	2·02	·086	·104	91·4	4·3	2,972	6,003	Moderate.	D.a.	P.s
P.H. 10 (12)	16,978	29·83	1·90	65 75	1·0897	2·24	·068	·132	91·8	3·0	4,032	9,032	Slight.	Free.	P.s
B. 67	14,639	29·91	4·95	68·00	1·0817	1·94	·083	·207	87·6	4·3	4,211	8,169	V. Slight.	D.a.	P.s.
B. 183	17,261	31·07	6·07	68·00	1·0756	1·86	·086	·124	89·9	4·6	4,401	8,186	Slight.	Free.	P.s.
B. 199	20,205	28·14	2·59	64·75	1·0765	1·80	·083	·207	86·1	4·6	3,792	6,826	Slight.	Free.	P.s.
B. 6450	17,220	29·47	1·63	67·75	1 0782	1·83	·064	·246	85·5	3·5	4,149	7,593	Slight.	Free.	P.s.
Ba. 6032...	14,841	28·88	4·07	65·00	1·0782	1·91	·061	·169	89·3	3·2	3,900	7,449	Slight.	Free.	P.s
Ba. 7924...	17,543	28·37	4·37	66·25	1·0800	2·01	·056	·114	92·2	2·8	3,899	7,837	Moderate.	D.a.	P.s.
Ba. 8409...	14,720	21·35	2·73	63·50	1·0826	2·06	·076	·114	91·6	3·7	2,806	5,780	Slight.	Free.	P.s.
Ba. 11569	17,462	29·33	4·85	64·00	1·0897	2·27	·061	·109	93·0	2·7	3,859	8,760	Slight.	D.a.	P.s.

TABLE XXXIII—BRIGHTON PLANTATION: RABBIT PEN FIELD. 1922—1924

Plant Canes.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C. / 16·6° C.	lb. per gallon of Saccharose.	lb. per gallon of Glucose.	lb. per gallon of Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of sett pests. *Diapreps abbreviatus*, Linn.	Presence of sett pests. *Phytalus smithi*, Arrow.
W. Transparent	15,216	14·68	24·92	60·50	1·0729	1·74	·071	·189	87·0	4·1	1,854	3,226	Bad.	D.a.	P.s.
B.H. 10 (12)	18,528	22·93	3·89	62·75	1·0897	2·22	·066	·154	91·0	3·0	2,958	6,567	Slight.	D.a.	Free.
B. 67	19,536	17·59	7·37	64·00	1·0800	1·89	·081	209	86·7	4·3	2,335	4,413	Moderate.	Free	Free.
B. 237	18,569	15·26	11·84	58·00	1·0826	1·99	·060	·200	88·4	3·0	1,831	3,644	Moderate.	Free.	Free.
B. 263	17,136	11·25	14·85	57·75	1·0782	1·83	·109	·201	85·5	6·0	1,350	2,471	Slight.	Free.	P.s.
B. 391	18,288	17·25	9·19	59·50	1·0835	1·96	·086	·234	86·0	4·4	2,122	4,159	Moderate.	Free.	Free.
B. 417	12,768	19·74	8·65	62·50	1·0800	1·90	·081	·199	87·2	4·3	2,558	4,860	Slight.	D.a.	Free.
B. 425	17,712	15·21	8·40	56·75	1·0861	2·09	·051	·209	88·9	2·4	1,781	3,722	Moderate.	D.a.	Free.
B. 6450	18,912	12·06	14·17	60·50	1·0729	1·67	·071	·259	83·5	4·3	1,524	2,545	Moderate.	D.a.	Free.
Ba. 6032...	13,584	14·25	13·07	61·00	1·0765	1·83	·083	·177	87·6	4·5	1,809	3,310	Moderate.	D.a.	Free.
Ba. 7924...	18,720	19·71	4·87	60·25	1·0765	1·80	·114	·176	86·1	6·3	2,472	4,450	Slight.	D.a.	Free.
Ba. 8069...	15,792	20·68	12·77	62·00	1·0782	1·86	·064	·216	86·9	3·4	2,664	4,955	Slight.	D.a.	P.s.
Ba. 8409...	18,576	20·40	8·26	60·75	1·0800	1·92	·074	·186	88·1	3·9	2,570	4,934	Moderate.	Free.	P.s.
Ba. 11569	19,104	27·21	5·27	62·50	1·0844	2·09	·063	·147	90·9	3·0	3,513	7,342	Slight.	Free.	P.s.
B.S.F. 12 (50)	17,424	18·64	12·40	64·25	1·0684	1·54	·081	·259	81·9	5·3	2,511	3,867	Slight.	D.a.	P.s.

TABLE XXXIV—COVERLEY PLANTATION: NORTH MERIBO FIELD. 1922–1924.

Plant Canes.

Name or No. of Cane.		No. of canes per acre.	Weight in Tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests.	
			Canes.	Tops.	Produce.			Sp. Gr. 30°C. 16·6° C.	lb. per gallon of			Quotient of Purity.	Glucose ratio.				*Diaprepes Abbreviatus*, Linn.	*Phytalus Smithi*, Arrow.
									Saccharose.	Glucose.	Solids not Sugar.							
W. Transparent	Series i ...	12,375	13·87	4·79	18·66	6·22	60·00	1·0809	2·01	·063	·137	91·0	3·1	1,725	3,467	Bad.	D.a.	P.s.
	Series ii ...	14,155	15·48	5·10	20·88	2·28	59·50	1·0844	2·09	·050	·160	90·9	2·4	1,903	3,977	Moderate.	D.a.	P.s.
	Mean ...	...	14·67	5·10	19·77	...	...	...	2·05	...	...	90·95	...	...	3,722	...	...	...
B.H. 10 (12) ...	Series i ...	13,389	16·49	3·51	20·00	2·42	44·75	1·0906	2·28	·046	·144	92·3	2·0	1,516	3,457	Slight.	D.a.	P.s.
	Series ii ..	14,397	14·53	2·84	17·37	3·64	59·25	1·0870	2·16	·050	·160	91·1	2·3	1,774	3,832	Slight.	D.a.	P.s.
	Mean ...	...	15·51	3·18	18·69	..	...	...	2·22	...	...	91·70	...	...	3,650	...	...	...
B. 67 ...	Series i ...	16,616	19·35	4·93	24·28	1·69	65·50	1·0853	2·06	·083	·177	88·8	4·0	2,617	5,391	Moderate.	D.a.	P.s.
	Series ii ..	17,462	19·98	5·72	25·70	·46	50·00	1·0844	2·03	·125	·145	88·3	6·2	2,064	4,190	Slight.	D.a.	Free.
	Mean ...	...	19·67	5·32	24·99	...	...	...	2·05	...	...	88·55	...	...	4,791	...	...	...
B. 425 ...	Series i ...	15,567	22·23	4·41	26·64	·77	44·75	1·0853	2·16	·045	·115	93·1	2·1	2,054	4,437	Slight.	Free.	P.s.
	Series ii ..	14,881	21·60	4·42	26·02	·81	59·25	1·0879	2·21	·052	·128	92·5	2·4	2,636	5,826	Slight.	D.a.	P.s.
	Mean .	...	21·91	4·42	26·33	...	...	...	2·19	...	...	92·80	...	...	5,132	...	...	...
B. 2001 ...	Series i ...	20,248	22·97	5·22	28·19	4·78	56·00	1·0782	1·87	·078	·192	87·4	4·2	2,673	4,999	Moderate.	Free.	P.s.
	Series ii ..	16,333	18·54	4·95	23·49	2·47	59·75	1·0800	1·91	·069	·171	89·0	3·6	2,298	4,458	Slight.	D.a.	P.s.
	Mean ...	...	20·75	5·09	25·84	...	...	...	1·91	...	...	88·20	...	...	4,729	...	...	...
B. 6450 ...	Series i ..	16,535	18·76	4·68	23·44	1·73	60·25	1·0800	1·92	·049	·211	88·1	2·6	2,344	4,501	Moderate.	D.a.	P.s.
	Series ii ...	17,180	18·45	5·22	23·67	2·58	61·00	1·0800	1·89	·100	·190	86·7	5·3	2,335	4,410	Slight.	D.a.	P.s.
	Mean ..	...	18·61	4·95	23·56	.	...	...	1·91	...	...	87·40	...	...	4,456	...	...	...
Ba. 6032 ..	Series i ...	14,478	20·74	5·13	25·87	·84	60·50	1·0773	1·87	·051	·189	88·6	2·7	2,609	4,879	Slight.	D.a.	P.s.
	Series ii ...	13,107	19·35	4·93	24·28	2·46	60·75	1·0738	1·78	·096	·144	88·1	5·4	2,453	4,369	Slight.	D.a.	P.s.
	Mean ...	..	20·05	5·03	25·08	...	...	...	1·83	...	...	88·35	...	...	4,623	...	...	...

TABLE XXXIV—(*Concluded*)—COVERLEY PLANTATION: NORTH MERIBO FIELD. 1922-1924.

Plant Canes.

Name or No. of cane.	No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests.	
		Canes.	Tops.	Produce.			Sp. Gr. 30° C. / 16·6° C.	lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
								Saccharose.	Glucose.	Solids not sugar.							
Pa. 8069 ... Series i ...	13,470	16·02	4·05	20·07	2·99	60·50	1·0791	1·87	·063	·227	86·6	3·4	2,012	3,762	Slight.	D.a.	P.s.
Series ii ..	16,615	15·57	4·28	19·85	1·69	61 00	1·0782	1·88	·109	·151	87·9	5·8	1,974	3,711	Slight.	D.a.	P.s.
Mean ..		15·80	4·16	19·96	...	...	...	1·88	...	...	87.25	...	..	3,737	...	...	...
Ba. 8109 ... Series i ...	11,857	14·53	4·23	18·76	2·04	56·75	1·0800	1·95	·048	·182	89·4	2·5	1,710	3,335	Bad.	D.a.	P.s.
Series ii ...	15,607	15·57	5 32	20·89	5·94	56·75	1·0817	1·99	·047	·193	89·2	2·4	1,830	3,462	Bad.	D.a.	P.s.
Mean ...	...	15·05	4·78	19·83	...	...	...	1·97	...	...	89·30	...	...	3,399	...	...	..
Pa. 11569 ... Series i ...	16,698	19·99	3·57	23·56	2·89	57·00	1·0879	2·03	·076	·284	84·9	3·7	2,346	4,762	Slight.	D.a.	P.s.
Series ii ...	13,591	21·33	4·30	25·63	...	60·25	1·0870	2·15	·068	·152	90·7	3·2	2,649	5,695	V. Slight.	D.a.	P.s.
Mean ...	...	20·66	3·94	24·60	...	...	...	2·09	...	—	87·80	...	...	5,229	...	...	...

TABLE XXXV—WATERFORD PLANTATION: NORTH SCHOOL HILL FIELD.

Plant Canes.

Name or No. of cane.	No. of canes per acre.	Weight in Tons per Acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests.	
		Canes.	Tops.	Produce.			Sp. Gr. 30°C./16·6°C.	lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus Smithi*, Arrow
								Saccharose.	Glucose.	Solids not sugar.							
W. Transparent Series i ...	14,544	21·60	3·54	25·14	6·60	61·50	1·0809	2·00	·054	·156	90·5	2·7	2,753	5,506	Mod. Bad	D.a.	P.s.
Series ii ...	19,920	22·29	3·94	26·23	8·91	64·50	1·0800	1·92	·167	·093	88·1	8·7	2,981	5,724	Moderate.	Free.	P.s.
Mean ...	...	21·95	3·74	25·69	...	...	...	1·96	...	...	89·30	...	...	5,615	...	—	...
B.H. 10 (12) ... Series i ...	18,000	25·46	3·32	28·78	2·40	62·75	1·0906	2·21	·061	·199	89·5	2·8	3,281	7,251	Moderate.	D.a.	Free.
Series ii ...	16,608	25·52	3·38	28·90	·86	65·00	1·0915	2·25	·058	·182	90·4	2·6	3,404	7,659	Moderate.	D.a.	Free.
Mean ...	...	25·49	3·35	28·84	...	...	...	2·23	...	...	89·95	...	...	7,455	...	...	...
B. 67 ... Series i ...	16,128	22·61	4·22	26·83	4·46	66·50	1·0844	2·02	·119	·161	87·8	5·9	3,105	6,272	Moderate.	Free.	P.s.
Series ii ...	16,608	25·06	4·47	29·53	4·33	68·50	1·0870	2·03	·081	·259	85·7	4·0	3,540	7,186	Slight.	D.a.	P.s.
Mean ...	...	23·84	4·34	28·18	...	...	...	2·03	...	...	86·75	...	...	6,729	...	...	...
B. 417 ... Series i ...	15,168	24·86	3·47	28·33	6·65	63·00	1·0870	2·15	·053	·167	90·7	2·5	3,227	6,938	Slight.	D.a.	P.s.
Series ii ...	16,656	31·14	4·39	35·53	6·62	66·00	1·0888	2·15	·156	·114	88·8	7·3	4,228	9,090	Slight.	Free	Free.
Mean ...	...	28·00	3·93	31·93	...	...	...	2·15	...	...	89·75	...	...	8,014	...	...	...
B. 6450 .. Series i ...	18,288	23·51	3·54	27·05	7·34	64·25	1·0756	1·72	·086	·264	83·1	5·0	3,145	5,409	Slight.	D.a.	Free.
Series ii ...	18,576	26·25	3·42	29·67	6·45	67·00	1·0765	1·72	·208	·162	82·3	12·1	3,660	6,295	Slight.	D.a.	Free.
Mean ...	...	24·88	3·48	28·36	...	...	...	1·72	...	...	82·70	...	...	5,852	...	...	...
Ba. 6032 ... Series i ...	16,320	29·25	2·85	32·10	4·71	64·25	1·0756	1·76	·089	·221	85·0	5·1	3,914	6,889	Slight.	Free.	Free.
Series ii ...	16,848	30·90	3·17	34·07	2·84	66·00	1·0773	1·83	·208	·072	86·7	11·4	4,240	7,759	V. Slight.	Free	Free.
Mean ...	...	30·08	3·01	33·09	...	...	...	1·80	...	...	85·85	...	...	7,324	...	...	...
Ba. 11403 ... Series i ...	14,544	21·19	4·50	25·69	2·64	61·25	1·0888	2·18	·050	·190	90·1	2·3	2,671	5,823	Moderate.	Free.	P.s.
Series ii ...	15,648	23·35	4·39	27·74	1·53	63·75	1·0897	2·17	·063	·207	88·9	2·9	3,061	6,642	Slight.	D.a.	P.s.
Mean ...	...	22·27	4·45	26·72	...	...	...	2·18	...	...	89·50	...	...	6,333	...	...	...

TABLE XXXV—(*Concluded*)—WATERFORD PLANTATION: NORTH SCHOOL HILL FIELD. 1922-1924.

Plant Canes.

Name or No. of Cane.		No. of canes per acre.	Weight in Tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests.	
			Canes.	Tops.	Produce.			Sp. Gr. 30°C./16·6°C.	lb. per gallon of			Quotient of Purity.	Glucose ratio.				*Diaprepes Abbreviatus*, Linn.	*Phytalus Smithi*, Arrow.
									Saccharose.	Glucose.	Solids not Sugar.							
Ba. 11569 ...	Series i ...	19,872	32·12	3·06	35·18	4·58	61·50	1·0853	2·08	·071	·169	89·7	3·4	4,077	8,480	Slight.	D.a.	Free.
	Series ii ...	17,136	32·25	4·13	36·38	4·47	66·00	1·0870	2·11	·076	·184	89·0	3·6	4,386	9,255	Slight.	Free	Free.
	Mean ...	...	32·18	3·60	35·78	...	...	...	2·10	...	..	89·35	...	...	8,868	..	...	...
W. No. 2 ...	Series i ...	16,320	20·25	4·45	24·70	2·05	61·00	1·0800	1·92	·057	·203	88·1	3·0	2,562	4,919	Bad.	D.a.	P.s.
	Series ii ...	17,616	20·05	3·12	23·17	5·72	64·00	1·0800	1·94	·077	·163	89·0	4·0	2,662	5,164	Bad.	D.a.	P.s.
	Mean ...	...	20·15	3·79	23·94	...	...	...	1·93	...	...	88·55	...	...	5,042	...	...	...
B.S.F. 12 (50) ...	Series i ...	18,192	25·07	3·12	28·19	2·37	59·75	1·0800	1·91	·104	·166	87·6	5·4	3,107	5,934	Slight.	Free.	P.s.
	Series ii ...	18,144	26·46	2·97	29·43	3·43	65·25	1·0782	1·73	·119	·291	80·8	6·9	3,588	6,207	Moderate.	Free.	P.s.
	Mean ...	...	25·77	3·04	28·81	...	...	...	1·82	...	...	84·20	...	...	6,071	...	...	...

TABLE XXXVI—PICKERINGS PLANTATION: BAMBOO FIELD. 1922-1924.

Plant Canes.

Name or No. of cane.		No. of canes per acre.	Weight in Tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Meramimus saccheri*, Wakker.	Presence of insect pests.	
			Canes.	Tops.	Produce.			$\frac{30°\ C.}{16·6°\ C.}$ Sp. Gr.	lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
									Saccharose.	Glucose.	Solids not sugar.							
W. Transparent	Series i ...	16,512	15·96	2·71	18·70	8·72	59·25	1·0817	1·96	·074	·196	87·9	3·8	1,959	3,840	Bad.	D.a.	Free.
	Series ii ...	15,648	12·51	1·86	14·37	23·01	56·75	1·0826	1·82	·179	·251	80·9	9·8	1,469	2,674	Bad.	D.a.	Free.
	Mean ...	...	14·24	2·30	16·54	...	...	...	1·89	...	...	84·40	...	...	3,257	...	...	...
B.H. 10 (12) ...	Series i ...	16,176	20·08	3·54	23·62	11·81	62·25	1·0924	2·29	·074	·146	91·2	3·2	2,563	5,869	Moderate.	D.a.	Free.
	Series ii ...	15,456	17·46	2·10	19·56	18·32	62·00	1·0933	2·24	·139	·161	88·2	6·2	2,218	4,968	Moderate.	D.a.	Free.
	Mean ...	...	18·77	2·82	21·59	...	...	...	2·27	...	...	89·70	...	...	5,419	...	...	..
B. 39 ...	Series i ...	17,280	19·84	2·74	22·58	10·83	62·25	1·0835	1·97	·078	·232	86·4	4·0	2,554	5,031	Slight.	D.a.	Free.
	Series ii ...	15,552	16·78	2·70	19·48	5·55	62·00	1·0782	1·78	·192	·168	83 2	10·8	2,161	3,847	Moderate.	D.a.	Free.
	Mean ...	...	18·31	2·72	21·03	...	...	...	1·88	..	...	84·80	..	..	4,439	...	.	...
B. 268 ...	Series i ...	18,000	25·48	3·47	28·95	21·07	64·00	1·0765	1·81	·074	·206	86·6	4·1	3,393	6,141	Slight.	D.a.	Free.
	Series ii ...	18,240	28·84	2·70	31·54	8·42	64·00	1·0773	1·81	·125	·175	85·8	6·9	3,838	6,947	Slight.	D.a	Free.
	Mean ...	...	27·16	3·09	30·25	...	...	...	1·81	...	...	86·20	..	...	6,544	...	...	..
B. 2001 ...	Series i ...	17,328	23·10	3·54	26·64	5·82	62·50	1·0835	1·93	·078	·272	84·7	4·0	2,985	5,761	Slight.	D.a.	Free.
	Series ii ...	16,848	22·41	2 98	25·39	9·40	62·50	1·0809	1·85	·192	·168	83·7	10·4	2,903	5,371	Moderate.	D.a.	Free.
	Mean ...	...	22·76	3·26	26·02	...	...	...	1·89	...	...	84·20	...	...	5,566	...	...	...
B. 6450 ...	Series i ...	19,417	22·21	3·03	25·24	12·53	62·25	1·0800	1·85	·076	·254	84.9	4·1	2,868	5,306	Slight.	D.a.	Free.
	Series ii ...	13,296	12·99	1·86	14·85	14·07	60·25	1·0791	1·79	·132	·238	82·9	7·4	1,624	2,907	Moderate.	D.a.	Free.
	Mean ...	...	17·60	2·45	20·05	...	...	...	1·82	...	...	83·90	...	...	4,107	...	...	..
Ba. 6032 ...	Series i ...	15,552	30·11	4·09	34·20	5·55	63·50	1·0817	1·98	·076	·174	88·8	3·8	3,959	7,839	Slight.	D.a.	Free.
	Series ii ...	16,416	29·01	3·43	32·44	7·31	63·50	1·0791	1·86	·139	·161	86·1	7·5	3,824	7,113	Slight.	D.a.	Free.
	Mean ...	...	29·56	3·76	33·32	...	...	...	1·92	...	...	87·45	...	...	7,476	...	...	...

TABLE XXXVI—(*Concluded*)—PICKERINGS PLANTATION: BAMBOO FIELD. 1922-1924.

Plant Canes.

Name or No. of cane.			No. of canes per acre.	Weight in Tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests.	
				Canes.	Tops.	Produce.			Sp. Gr. 30°C. / 16·6°C.	lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
										Saccharose.	Glucose.	Solids not sugar.							
Ba. 7924	...	Series i...	18,960	23·29	2·59	25·88	15·44	62·25	1·0765	1·79	·074	·226	85·6	4·1	3,017	5,400	Slight.	D.a.	Free.
		Series ii	22,416	23·49	2·53	26·02	19·06	61·00	1·0738	1·71	·069	·241	84·7	4·0	2,989	5,111	Moderate.	D.a.	Free.
		Mean...	...	23·39	2·56	25·95	...	...	...	1·75	...	...	85·15	..	...	5,256	...	...	...
Ba. 8069	...	Series i..	12,288	16·80	2·10	19·20	10·15	62·25	1·0791	1·89	·083	·187	87·5	4·4	2,171	4,103	Slight.	D.a.	Free.
		Series ii...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
		Mean...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ba. 11569	...	Series i	14,352	23·72	2·27	25·99	8.69	63·75	1·0844	2·00	·078	·222	87·0	3·9	3,124	6,248	Slight.	D.a.	Free.
		Series ii...	16,228	29·10	4·18	33·28	9·17	60·25	1·0844	1·99	·139	·171	86·5	7·0	3,622	7,207	Slight.	D.a.	Free.
		Mean...	..	26·41	3·23	29·64	..	...	...	2·00	...	...	86·75	...	...	6,728	...	...	...
Ba. 12079	...	Series i...	20,736	19·29	2·79	22·08	14·37	61·50	1·0835	1·89	·069	·321	82·9	3·7	2,452	4,634	Slight.	D.a.	Free.
		Series ii...	19,968	19·31	2·06	21·37	19·95	59·75	1·0835	1·94	·125	·215	85 1	6·4	2,385	4,627	Slight.	D.a.	Free.
		Mean ..	...	19·30	2·43	22·73	...	...	...	1·92	..	...	84·00	...	...	4,631	...	...	...
B.S.F. 13 (14)		Series i...	17,376	23·83	3·75	27·58	6·63	63·00	1·0817	1·88	·083	·237	84·3	4·4	3,109	5,845	Slight.	D.a.	Free.
		Series ii ..	17,664	27·81	4·20	32·01	2·72	60·75	1·0809	1·82	·156	·231	82·4	8·6	3,502	6,374	Slight.	D.a.	Free.
		Mean...	...	25·82	3·98	29·80	...	...	...	1·85	...	...	83·35	...	...	6,110	...	...	...

TABLE XXXVII—CLIFTON HALL PLANTATION CALF FIELD. 1922–1924.

Plant Canes.

Name or No. of Cane.		No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests.	
			Canes.	Tops.	Produce.			Sp. Gr. 30°C./16·6°C.	lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
									Saccharose.	Glucose.	Solids not sugar.							
W. Transparent	Series i...	23,112	26·99	6·33	33·32	27·89	65·00	1·0791	1·97	·069	·121	91·2	3·5	3,641	7,173	Bad.	Free.	Free.
	Series ii..	22,531	25·15	5·65	30·80	28·60	64·50	1·0791	1·84	·069	·251	85·2	3·8	3,367	6,195	Bad.	Free.	Free.
	Mean...	..	26·07	5·99	32·06	...	...	...	1·91	..	...	88·20	..	...	6,684	...	...	...
B.H. 10 (12)	Series i..	19,511	55·21	6·09	61·30	3·27	66·50	1·0933	2·32	·054	·166	91·3	2·3	7,523	17,453	V. Slight.	Free.	Free.
	Series ii...	20,731	51·07	5·44	56·51	2·52	66·25	1·0924	2·27	·063	·177	90·4	2·8	6,938	15,749	Slight.	Free.	Free.
	Mean...	...	53·14	5·77	58·91	...	...	...	2·30	...	...	90 85	...	...	16,601	...	...	...
B. 67	Series i...	21,369	43·29	6·40	49·69	10·05	69·75	1·0844	2·05	·069	·181	89·1	3·4	6,237	12,786	Slight.	Free.	Free.
	Series ii...	19,918	42·15	6·53	48·68	16·61	67·50	1·0844	1·98	·053	·267	86·1	2·7	5,877	11,637	Slight.	Free.	Free.
	Mean...	..	42·72	6·47	49·19	...	...	...	2·02	...	..	87·60	...	...	12,212	...	...	...
B. 405	Series i...	26,247	50·68	6·53	57·21	7·74	66·75	1·0879	2·04	·061	·289	85·4	3·0	6,966	14,211	Slight.	Free.	Free.
	Series ii...	21,925	47·68	8·31	55·99	11·51	65·25	1·0915	2·26	·052	·178	90·8	2·3	6,385	14,431	Slight.	Free.	Free.
	Mean...	...	49·18	7·42	56·60	...	...	...	2·15	...	...	88·10	...	...	14,320	...	...	...
B. 6450	Series i...	25,957	49·83	6·79	56·62	17·00	68·50	1·0738	1·78	·063	·177	88·1	3·5	7,120	12,674	Moderate.	Free.	Free.
	Series ii...	26,828	50·94	5·89	56·83	6·27	66·50	1·0782	1·86	·063	·217	86·9	3·4	7,038	13,091	Moderate.	Free.	Free.
	Mean...	...	50·39	6·34	56·73	...	...	...	1·82	...	...	87·50	...	...	12,883	...	..	—
Ba. 6032	Series i...	22,995	64·86	7·51	72·37	3·53	66·50	1·0817	1·99	·063	·177	89·2	3·2	8,932	17,775	Slight.	Free.	Free.
	Series ii...	20,440	61·46	7·18	68·64	1·14	61·75	1·0773	1·82	·060	·230	86·3	3·3	7,892	14,363	Slight.	Free.	Free.
	Mean...	...	63·16	7·35	70·51	...	...	...	1·91	—	...	87·75	...	...	16,069	...	...	—
Ba. 7924	Series i...	23,460	45·86	7·73	53·59	5·44	64·50	1·0791	1·93	·060	·170	89·4	3·1	6,140	11,851	Slight.	Free.	Free.
	Series ii...	24,099	49·64	7·25	56·89	3·61	65·00	1·0835	2·05	·043	·187	89·9	2·1	6,671	13,676	Slight.	Free.	Free
	Mean..	...	47·75	7·49	55·24	...	...	...	1·99	...	...	89·65	...	...	12,764	...	...	...

TABLE XXXVII—(*Concluded*)—CLIFTON HALL PLANTATION: CALF FIELD. 1922–1924.

Plant Canes.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests.	
			Canes.	Tops.	Produce.			Sp. Gr. 30° C. / 16·6° C.	lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
									Saccharose.	Glucose.	Solids not sugar.							
Ba. 11569	Series i...	17,246	32·33	6·14	38·47	29·29	65·00	1·0888	2·19	·076	·154	90·5	3·5	4,323	9,467	Slight.	Free.	Free.
	Series ii...	23,112	46·25	7·25	53·50	7·03	63·25	1·0906	2·22	·066	·184	89·9	3·0	6,008	13,338	Slight.	Free.	Free.
	Mean...	...	39·29	6·70	45·99	...	...	..	2·21	...	...	90·20	...	...	11,403	...	..	...
Ba. 12079	Series i..	29,441	44·85	7·60	52·45	4·93	62·75	1·0747	1·62	·068	·352	79·4	4·2	5,866	9,503	Slight.	Free.	Free.
	Series ii...	20,672	45·76	7·64	53·40	5·05	63·50	1·0703	1·53	·052	·348	79·3	3·4	6,081	9,304	Slight.	Free.	Free.
	Mean...	...	45·31	7·62	52·93	...	...	...	1·58	...	...	79·35	...	...	9,404	...	...	...

TABLE XXXVIII—CLIFTON HALL PLANTATION: LOWER GOAT FIELD. 1922–1924.

First Ratoons.

Name or No. of cane.		No. of canes per acre.	Weight in Tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests.	
			Canes.	Tops.	Produce.			Sp. Gr. 30°C. 16·6°C.	lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus Smithi*, Arrow
									Saccharose.	Glucose.	Solids not sugar.							
W. Transparent	Series i ..	17,015	24·16	4·54	28·70	9·56	63·50	1·0835	2·06	·064	·156	90·4	3·1	3,172	6,534	Bad.	Free.	Free.
	Series ii ...	18,350	23·98	5·24	29·22	3·18	62·25	1·0782	1·94	·066	·134	90·7	3·4	3,101	6,015	Bad.	Free.	Free.
	Mean ...	...	24·07	4·89	28·96	...	...	...	2·00	...	...	90·55	...	...	6,275	...	...	...
B.H. 10 (12)	Series i ...	19,744	33·00	5·76	38·76	1·47	65·00	1·0879	2·08	·132	·178	87·0	6·3	4,417	9,187	Slight.	Free.	Free.
	Series ii ...	17,015	32·41	6·22	38·63	2·05	65·00	1·0951	2·30	·109	·171	89·1	4·7	4,309	9,911	Slight.	Free.	Free.
	Mean ...	...	32·71	5·99	38·70	...	...	...	2·19	...	...	88·05	...	...	9,549	...	...	...
B. 67	Series i ...	18,060	32·98	6·53	39·51	4·50	68·00	1·0906	2·13	·208	·132	86·2	9·8	4,606	9,811	Slight.	Free.	Free.
	Series ii ...	16,608	30·56	7·13	37·69	1·75	70·00	1·0861	2·05	·192	·108	87·2	9·4	4,413	9,047	Slight.	Free.	Free.
	Mean ...	...	31·77	6·83	38·60	...	...	...	2·09	...	...	86·70	...	...	9,429	...	...	...
B. 6450	Series i ..	22,125	31·29	6·90	38·19	2·10	69·00	1·0835	1·94	·208	·132	85·1	10·7	4,464	8,659	Moderate.	Free.	Free.
	Series ii ...	21,428	32·85	6·56	39·41	3·52	66·50	1·0853	2·13	·064	·126	91·8	3·0	4,508	9,602	Moderate.	Free.	Free.
	Mean ...	...	32·07	6·73	38·80	...	...	...	2·04	...	...	88·45	...	...	9,131	...	...	...
Ba. 6032	Series i ...	19,279	30·69	6·53	37·22	·90	65·50	1·0853	2·06	·125	·135	88·8	6·1	4,149	8,547	Slight.	Free.	Free.
	Series ii ...	17,305	34·66	5·00	39·66	1·01	64·75	1·0809	1·98	·066	·164	89·6	3·3	4,651	9,209	Slight.	Free.	Free.
	Mean ...	...	32·68	5·76	38·14	...	...	...	2·02	...	...	89·20	...	...	8,878	...	...	...
Ba. 7924	Series i ...	18,350	27·84	4·98	32·82	2·22	67·00	1·0861	2·12	·192	·038	90·2	9·1	3,847	8,156	Moderate.	Free.	Free.
	Series ii ...	26,480	34·17	4·82	38·99	2·41	65·00	1·0817	2·02	·192	·018	90·6	9·5	4,599	9,290	Slight.	Free.	Free.
	Mean ...	...	31·01	4·90	35·91	...	...	...	2·07	...	...	90·40	...	...	8,723	...	...	...
Ba. 11569	Series i ...	19,512	26·21	3·94	30·15	28·57	64·75	1·0870	2·09	·156	·124	88·2	7·5	3,497	7,309	Moderate.	Free.	Free.
	Series ii ..	26,422	31·86	5·05	36·91	8·35	64·00	1·0915	2·27	·208	·012	91·2	9·2	4,185	9,490	Slight.	Free.	Free.
	Mean ..	...	29·04	4·49	33·53	...	...	...	2·18	...	...	89·70	...	...	8,404	...	...	...
Ba. 12079	Series i ...	26,248	33·03	4·10	37·13	4·42	60·75	1·0844	1·89	·132	·278	82·2	7·0	4,145	7,834	Slight.	Free.	Free.
	Series ii ...	16,956	36·14	5·57	41·71	4·11	63·50	1·0888	2·11	·114	·196	87·2	5·4	4,721	9,961	Slight.	Free.	Free.
	Mean ...	...	34·59	4·83	39·42	...	...	...	2·00	...	...	84·70	...	...	8,898	...	...	...

TABLE XXXIX—CLIFTON HALL PLANTATION: UPPER GOAT FIELD. 1922-1924.

Second Ratoons.

Name or No. of cane.		No. of canes per acre.	Weight in Tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Mirastemmius saccheri*, Wakker.	Presence of insect pests.	
			Canes.	Tops.	Produce.			30° C. / 16·6° C. Sp. Gr.	lb. per gallon of Saccharose.	lb. per gallon of Glucose.	lb. per gallon of Solids not sugar.	Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
W. Transparent	Series i ...	11,477	17·24	3·07	20·31	8·04	60·50	1·0809	1·83	·119	·261	82·8	6·5	2,162	3,957	Bad.	Free.	Free.
	Series ii ...	20,034	23·98	6·74	30·72	4·93	63·50	1·0844	2·09	·109	·101	90·9	5·2	3,145	6,573	Bad.	Free.	Free.
	Mean ..	...	20·61	4·91	25·52	...	...	...	1·96	...	..	86·85	...	...	5,265	...	...	
.H. 10 (12)	Series i ...	24,912	32·90	7·60	40·50	·94	64·25	1·0879	2·16	·111	·116	90·4	5·3	4,352	9,400	Slight.	Free.	Free.
	Series ii ...	20,847	31·73	6·79	38·52	·56	64·75	1·0924	2·25	·125	·135	89·6	5·6	4,213	9,479	Slight.	Free.	Free.
	Mean ...	..	32·32	7·19	39·51	...	..	...	2·21	...	..	90·00	...	...	9,440	...	...	...
B. 67	Series i ..	19,721	28·05	5·50	33·55	10·39	66·75	1·0844	1·91	·101	·286	83·0	5·4	3,868	7,388	Slight.	Free.	Free.
	Series ii ...	22,046	31·51	7·86	39·37	·82	67·50	1·0835	1·92	·147	·213	84·2	7·7	4,397	8,442	Slight.	Free.	ree.
	Mean ...	...	29·78	6·38	36 16	.	...	...	1·92	...	...	83·60	...	..	7,915	..	...	...
B. 6450	Series i ...	20,325	29·99	5·34	35·33	4·00	67·50	1·0835	2·01	·114	·153	88·2	5·7	4,186	8,414	Moderate.	Free.	Free.
	Series ii ...	21,312	28·31	6·40	31·71	3·00	67·00	1·0861	2·07	·114	·166	88·1	5·5	3,912	8,098	Moderate.	Free.	Free.
	Mean ..	...	29·15	5·87	35·02	..	.	...	2·04	...	...	88·15	...	...	8,256	...	...	
Ba. 6032	Series i ...	17,419	26·86	3·42	30·28	·71	65·50	1·0791	1·86	·109	·191	86·1	5·9	3,652	6,793	Slight.	Free.	Free.
	Series ii ...	19,047	29·29	4·80	34·09	1·22	64·75	1·0841	1·92	·125	·255	83·5	6·5	3,918	7,523	Slight.	Free.	Free.
	Mean ..	...	28·08	4·11	32·19	...	...	...	1·89	...	...	84·80	..	...	7,158	...	...	...
Ba. 7924	Series i ...	23,170	28·59	4·46	33·05	2·26	64·75	1·0861	2·11	·104	·136	89·3	4·9	3,819	8,058	Moderate.	Free.	Free.
	Series ii ...	24,564	30·41	6·22	36·63	1·89	65·50	1·0870	2·18	·139	·051	92·0	6·4	4,105	8,949	Slight.	Free.	Free.
	Mean ...	...	29·50	5·34	34·81	.	...	...	2·15	...	...	90·90	...	...	8,504	...	..	...
Ba. 12079	Series i ...	28,745	37·98	8·37	46·35	1·82	61·50	1·0809	1·90	·109	·201	86·0	5·7	4,840	9,196	Slight.	Free.	Free.
	Series ii ...	24,738	32·04	6·61	38·65	5·16	62·00	1·0853	1·98	·139	·201	85·3	7·0	4,100	8,118	Slight.	Free.	Free.
	Mean ...	...	35·01	7·49	42·50	..	...	...	1·94	...	..	85·65	...	..	8,657	..	...	...

TABLE XL.—HENLEY PLANTATION: LONG FIELD. 1922–1924.

Plant Canes.

Name or No. of cane.		No. of canes per acre.	Weight in Tons per Acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests.	
			Canes.	Tops.	Produce.			Sp. Gr. 30°C./16·6°C.	lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus Smithi*, Arrow.
									Saccharose.	Glucose.	Solids not sugar.							
W. Transparent	Series i ...	14,807	17·78	3·50	21·28	9·80	61·00	1·0765	1·78	·083	·227	85·2	4·7	2,257	4,018	Bad.	D.a.	Free.
	Series ii ...	14,749	13·61	2·49	16·10	3·14	60·50	1·0756	1·76	·078	·232	85·0	4·4	1,715	3,018	Bad.	Free.	Free.
	Mean ...	...	15·70	2·99	18·69	...	...	...	1·77	..	...	85·10	..	..	3,518	...	...	...
B.H. 10 (12) ...	Series i ...	17,769	29·71	3·76	33·47	1·30	64·50	1·0826	2·02	·078	·152	89·8	3·9	3,965	8,009	Slight.	Free.	Free.
	Series ii ...	18,117	26·65	3·37	30·02	3·20	63·25	1·0782	1·77	·086	·284	82·7	4·9	3,502	6,199	Moderate.	Free.	Free.
	Mean ...	...	28·18	3·57	31·75	...	...	...	1·90	...	...	86·25	...	...	7,104	...	...	—
B. 67 ...	Series i ...	19,221	26·13	4·61	30·74	7·85	69·50	1·0800	1·90	·074	·206	87·2	3·9	3,767	7,157	Moderate.	Free.	Free.
	Series ii ...	17,653	16·09	3·16	19·25	8·88	63·25	1·0782	1·77	·119	·251	82·7	6·7	2,115	3,744	Moderate.	Free.	Free.
	Mean ...	...	21·11	3·89	25·00	..	..	...	1·84	...	...	84·95	...	...	5,451	...	...	...
B. 6450 ...	Series i ...	17,362	23·98	3·94	27·92	3·01	64·25	1·0782	1·81	·083	·247	84·6	4·6	3,201	5,794	Slight.	Free.	Free.
	Series ii ...	18,002	12·62	3·37	15·99	5·48	58·50	1·0747	1·70	·089	·251	83·3	5·2	1,539	2,616	Moderate.	Free.	Free.
	Mean ...	...	18·30	3·66	21·96	...	...	...	1·76	...	..	83·95	...	...	4,205	..	...	...
Ba. 6032 ...	Series i ...	16,666	26·99	4·27	31·26	6·27	62·00	1·0694	1·58	·089	·231	83·2	5·6	3,504	5,536	Slight.	Free.	Free.
	Series ii ...	17,479	25·15	3·03	28·18	1·96	59·25	1·0667	1·48	·089	·271	80·4	6·0	3,129	4,631	Moderate.	Free.	Free.
	Mean ...	...	26·07	3·65	29·72	...	...	...	1·53	...	...	81·80	...	...	5,084	...	...	...
Ba. 7924 ...	Series i ...	16,433	25·66	4·02	29·68	1·76	61·00	1·0738	1·73	·078	·212	85·6	4·5	3,266	5,650	Slight.	Free.	Free.
	Series ii ...	20,324	25·74	3·21	28·95	7·42	60·00	1·0721	1·69	·086	·194	85·8	5·1	3,227	5,454	Slight.	Free.	Free.
	Mean ...	...	25·70	3·62	29·32	..	...	...	1·71	...	...	85·70	...	...	5,552	...	...	...
Ba. 11569 ...	Series i ...	20,646	29·87	4·29	34·16	5·00	62·25	1·0817	2·01	·083	·137	90·1	4·1	3,850	7,739	Slight.	Free.	Free.
	Series ii ...	26,217	25·66	3·61	29·27	·99	58·40	1·0791	1·85	·066	·244	85·6	3·6	3,111	5,755	Moderate.	Free.	Free.
	Mean ...	...	27·77	3·95	31·72	...	...	..	1·93	...	...	87·85	...	...	6,747	...	...	...

TABLE XLI—HENLEY PLANTATION: TODDS MILL FIELD. 1922—1924.

First Ratoons.

Name or No. of Cane.		No. of canes per acre.	Weight in Tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests.	
			Canes.	Tops.	Produce.			Sp. Gr. 30°C./16·6°C.	lb. per gallon of Saccharose.	lb. per gallon of Glucose.	lb. per gallon of Solids not Sugar.	Quotient of Purity.	Glucose ratio.				*Diagrepes abbreviatus*, Linn.	*Phytalus Smithi*, Arrow.
W. Transparent	Series i ...	12,078	8·94	3·16	12·10	8·35	57·50	1·0756	1·83	·089	·151	88·4	4·9	1,071	1,960	Bad.	Free.	Free.
	Series ii ...	15,389	13·95	4·07	18·02	7·17	62·50	1·0791	1·91	·083	·167	88·4	4·3	1,810	3,457	Bad.	Free.	Free.
	Mean ...	...	11·45	3·61	15·06	..	...	..	1·87	...	...	88·40	...	...	2,709	...	...	...
B.H. 10 (12) ...	Series i ...	20,614	19·73	3·83	23·56	1·69	62·00	1·0835	1·95	·050	·280	85·5	2·6	2,529	4,932	Slight.	Free.	Free
	Series ii ...	22,879	24·24	4·54	28·78	2·28	63·00	1·0800	1·86	·050	·270	85·3	2·7	3,167	5,891	Slight.	Free.	Free.
	Mean ...	...	21·99	4·18	26·17	...	...	...	1·91	...	...	85·40	...	...	5,412	...	...	..
B. 67 ...	Series i ...	20,150	17·76	4·36	22·12	4·89	65·25	1·0809	1·85	·054	·306	83·7	2·9	2,401	4,442	Slight.	Free.	Free.
	Series ii ...	17,131	16·82	4·28	21·10	6·10	65·50	1·0800	1·89	·063	·227	86·7	3·3	2,285	4,319	Slight.	Free.	Free.
	Mean ...	...	17·29	4·32	21·61	...	...	...	1·87	...	..	85·20	...	...	4,381	..	...	...
B. 6450 ...	Series i ...	16,491	11·30	3·58	14·88	5·98	62·00	1·0782	1·80	·057	·283	84·1	3·2	1,456	2,621	Slight.	Free.	Free.
	Series ii ...	19,105	16·38	3·47	19·85	5·17	65·00	1·0782	1·89	·054	·196	88·3	2·9	2,212	4,181	Slight.	Free.	Free.
	Mean ...	...	13·84	3·53	17·37	...	...	...	1·85	..	...	86·20	...	...	3,401	...	...	...
Ba. 6032 ...	Series ...	19,163	19·29	4·59	23·88	4·54	60·00	1·0721	1·62	·060	·290	82·2	3·7	2,418	3,917	Slight.	Free.	Free.
	Series ii ...	17,014	20·14	3·86	24·00	2·38	60·25	1·0721	1·63	·063	·277	82·7	3·9	2,536	4,134	Slight.	Free.	Free.
	Mean ...	...	19·72	4·22	23·94	...	...	...	1·63	...	..	82·45	...	...	4,026	...	...	..
Ba. 7924 ...	Series i ...	20,150	16·33	4·38	20·71	3·74	62·50	1·0729	1·69	·033	·247	84·5	3·7	2,131	3,601	Slight.	Free.	Free.
	Series ii ...	20,498	25·40	4·85	30·25	3·11	63·25	1·0738	1·79	·063	·167	88·6	3·5	3,352	6,000	Slight.	Free.	Free.
	Mean ...	...	20·87	4·61	25·48	...	...	...	1·74	..	...	86·55	...	...	4,801	...	..	..
Ba. 11569 ...	Series i ...	21,602	20·66	4·04	24·70	2·95	59·75	1·0841	1·98	·049	·271	86·1	2·5	2,550	5,049	Slight.	Free.	Free.
	Series ii ...	20,847	25·85	4·74	30·59	3·06	62·00	1·0841	2·03	·050	·220	88·3	2·5	3,310	6,719	Slight.	Free.	Free.
	Mean ...	...	23·26	4·39	27·65	..	...	...	2·01	...	..	87·20	...	...	5,884	...	...	...

TABLE XLII—LEMON ARBOR PLANTATION: WEST POUNDERS FIELD. 1922—1924.

Plant Canes.

Name or No. of cane.		No. of canes per acre.	Weight in Tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests.	
			Canes.	Tops.	Produce.			Sp. Gr. 30°C. 16·6° C.	lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
									Saccharose.	Glucose.	Solids not sugar.							
W. Transparent	Series i ...	17,595	29·14	6·48	35·62	2·97	63·00	1·0773	1·93	·061	·119	91·5	3·2	3,817	7,367	Moderate.	Free.	Free.
	Series ii ..	18,350	28·31	5·68	33·99	1·58	62·00	1·0800	2·01	·167	·003	92·2	8·3	3,640	7,316	Moderate	Free.	Free.
	Mean ...	...	28·73	6·08	34·81	...	...	...	1·97	...	...	91·85	...	...	7,342	..	...	..
B. H. 10 (12)	Series i ...	20,092	38·78	6·37	45·15	1·15	65·00	1·0870	2·16	·125	·085	91·1	5·8	5,195	11,221	Slight.	Free.	Free.
	Series ii ...	16,491	32·35	4·74	37·09	1·05	64·75	1·0817	1·95	·147	·133	87·4	7·5	4,239	8,266	V. Slight.	Free.	Feee.
	Mean ..	...	35·57	5·55	41·12	...	...	...	2·06	...	...	89·25	...	...	9,744	...	...	...
B. 67	Series i ..	20,672	37·98	6·61	44·59	1·40	67·50	1·0791	1·93	·100	·130	89·4	5·2	5,322	10,272	Slight.	Free.	Free.
	Series ii ..	17,246	30·72	5 70	36·42	1·01	67·75	1·0817	2·00	·132	·098	89·7	6·6	4,310	8,620	Slight.	Free.	Feee.
	Mean ...	...	34·35	6·16	40·51	...	...	...	1·97	...	...	89·55	...	..	9,446	...	..	...
B. 6450	Series i ..	21,950	35·90	6·29	42·19	3·70	66·00	1·0773	1·89	·078	·142	89·6	4·1	4,927	9,312	Moderate.	Free.	Free.
	Series ii ...	18,001	29·71	6·53	36·24	·96	65·00	1·0809	1·97	·208	·052	89·1	10·6	4,002	7,884	Slight.	Free	Free.
	Mean ...	...	32·81	6·41	39·22	...	...	...	1 93	...	...	89·35	...	...	8,598	...	...	...
Ba. 2471	Series i ...	24 621	27·25	6·42	33·67	1·65	62·00	1 0756	1·78	·096	·194	86·0	5·4	3,518	6,262	Slight.	Free	Free.
	Series ii ..	24,215	26·36	5·52	31·88	1·91	62·75	1·0705	1·59	·179	·821	76·1	11·3	3,442	5,473	Slight.	Free,	Free.
	Mean ..	...	26·81	5·97	32·78	..	...	..	1 69	...	..	81 05	...	..	5 868	...	...	...
Ba. 6032	Series i ..	16,984	32·50	4·70	37·20	1·28	61·50	1·0738	1·78	·081	·159	88·1	4·6	4,170	7,421	Slight.	Free,	Free.
	Series ii ...	18,157	31·68	4·43	36·11	2·21	63·75	1·0756	1·76	·208	·102	85·0	11·8	4,205	7,401	Slight.	Free.	Free.
	Mean ...	...	32 09	4·57	36·66	...	...	...	1·77	...	...	86·55	...	..	7,411	...	...	...
Ba. 8069	Series i ..	15,795	30·75	5·39	36·14	1·83	65·00	1 0747	1·76	·114	·106	86·3	6·5	4,165	7,330	Slight.	Free.	Free.
	Series ii ...	15,736	30·49	4·79	35·28	1·47	64·50	1·0765	1·81	·179	·101	86·6	9·9	4,092	7,407	Slight.	Free.	Free.
	Mean ...	...	30·62	5·09	35·71	...	...	..	1·79	...	...	86·45	...	...	7,369	...	...	...
Pa. 11569	Series i ..	16,491	35·23	5·08	40·31	2·11	64·00	1·0879	2·20	·048	·142	92 0	2·2	4,643	10,215	Slight.	Free.	Free.
	Series ii ...	16,549	30·22	5·05	35·27	·70	63·75	1·0844	2·09	·156	·054	90·9	7·5	3,981	8,319	Slight.	Free.	Free.
	Mean ..	...	32·73	5·06	37·79	...	...	...	2·15	...	...	91·45	...	...	9,267	...	..	...

TABLE XLIII—LEMON ARBOR PLANTATION: SOUTH WILSON POND FIELD. 1922—1924.

First Ratoons.

Name or No. of cane.		No. of canes per acre.	Weight in Tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests.	
			Canes.	Tops.	Produce.			30°C./16·6°C. Sp. Gr.	lb. per gallon of Saccharose.	lb. per gallon of Glucose.	lb. per gallon of Solids not sugar.	Quotient of purity.	Glucose ratio.				*Diapreopes abbreviatus*, Linn.	*Phytalus Smithi*, Arrow
W. Transparent	Series i ..	16,898	19·47	3·27	22·74	6·53	63·75	1·0765	1·84	·114	·136	88·0	6·2	2,583	4,753	Bad.	Free.	Free.
	Series ii ..	20,847	23·49	4·54	28·03	15·86	67·75	1·0756	1·72	·057	·293	83·1	3·3	3,314	5,700	Moderate.	Free.	Free.
	Mean ...	...	21·48	3·91	25·39	...	...	..	1·78	...	...	85·55	...	..	5,227	...	...	...
B.H. 10 (12) ...	Series i ..	13,820	30·72	4·71	35·43	·78	63·50	1·0844	2·04	·104	·156	88·7	5·1	4,029	8,219	Slight.	Free.	Free.
	Series ii ...	20,963	35·72	5·08	40·80	·83	63·50	1·0844	1·90	·057	·343	82·6	3·0	4,686	8,903	Slight.	Free.	Free.
	Mean ...	...	33·22	4·90	38·12	...	...	...	1·97	..	...	85·65	...	...	8,561	...	...	..
B. 67 ...	Series i ...	23,750	27·17	5·34	32·51	1·71	65·75	1·0800	1·83	·139	·211	83·9	7·6	3,705	6,780	Slight.	Free.	Free.
	Series ii ..	26,421	34·50	7·00	41·50	3·73	67·00	1·0817	1·86	·050	·320	83·4	2·7	4,787	8,904	Slight.	Free.	Free.
	Mean ...	...	30·84	6·17	37·01	...	...	..	1·85	...	...	83·65	...	...	7,842	...	...	...
B. 6450 ...	Series i ..	24,331	28·00	5·47	33·47	4·30	67·25	1·0782	1·70	·078	·362	79·4	4·6	3,912	6,650	Slight.	Free.	Free.
	Series ii ...	22,937	28·18	5·39	33·57	1·01	66·00	1·0765	1·68	·061	·349	80·4	3·6	3,870	6,502	Slight.	Free.	Free.
	Mean ...	...	28·09	5·43	33·52	...	...	..	1·69	...	...	79·90	...	..	6,576	...	...	...
Ba. 2471 ...	Series i ..	27,583	26·03	5·75	31·78	3·56	61·25	1·0765	1·31	·069	·711	62·7	5·3	3,317	4,345	Moderate.	Free.	Free.
	Series ii ...	26,886	25·02	5·96	30·98	2·59	62·75	1·0747	1·12	·057	863	54·9	5·1	3,272	3,665	Slight.	Free.	Free.
	Mean ...	...	25·53	5·85	31·38	...	...	...	1·22	...	...	58·80	...	...	4,005	...	...	...
Pa. 6032 —	Series i ...	19,743	26·70	3·94	30·64	·59	62·75	1·0684	1·55	·114	·216	82·4	7·4	3,513	5,445	Slight.	Free.	Free
	Series ii ..	19,105	28·83	3·83	32·66	·30	65·00	1·0729	1·66	·057	·283	83·0	3·4	3,912	6,494	Slight.	Free.	Free.
	Mean ...	...	27·77	3·88	31·65	...	...	..	1·61	...	..	82·70	...	...	5,970	...	...	...
Ba. 11569 ...	Series i ..	25,257	19·83	2·92	22·75	46·31	62·75	1·0835	2·03	·104	1·46	89·0	5·1	2,572	5,221	Moderate.	Free.	Free.
	Series ii ...	22,240	19·18	3·24	22·52	22·98	61·50	1·0915	2·09	·052	3·48	83·9	2·5	2,421	5,060	Slight.	Free.	Free.
	Mean ...	...	19·51	3·13	22·64	...	...	...	2·06	...	...	86·45	...	...	5,141	...	—	...

TABLE XLIV—VAUCLUSE PLANTATION: SICILY FIELD. 1922—1924.

Plant Canes.

Name or No. of Cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30°C./16·6°C.	Normal Juice. lb. per gallon of Saccharose.	Normal Juice. lb. per gallon of Glucose.	Normal Juice. lb. per gallon of Solids not sugar.	Normal Juice. Quotient of purity.	Normal Juice. Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests. *Diapreps abbreviatus*, Linn.	Presence of insect pests. *Phytalus smithi*, Arrow.
W. Transparent	20,092	22·06	26·88	61·00	1·0717	1·85	·179	·011	90·7	9·7	2,805	5,189	Bad	Free.	Free.
B.H. 10 (12)	22,995	36·14	2·02	65·00	1·0826	1·94	·104	·206	86·2	5·4	4,860	9,428	Slight.	Free.	Free.
B. 39	19,976	27·53	5·81	67·00	1·0721	1·64	·074	·256	83·2	4·5	3,854	6,321	Slight.	Free.	Free.
B. 67	15,040	33·05	1·93	67·50	1·0756	1·74	·083	·247	84·1	4·8	4,647	8,086	Slight.	Free.	Free.
B. 6450	22,617	28·72	8·72	61·00	1·0721	1·54	·192	·238	78·2	12·5	3,661	5,638	Moderate.	Free.	Free.
Ba. 6032	17,301	35·36	·67	63·25	1·0703	1·55	·109	·261	86·8	7·0	4,681	7,302	Slight.	Free.	Free.
Ba. 7924	20,556	26·83	1·98	63·00	1·0765	1·77	·083	·237	84·7	4·7	3,517	6,225	Moderate.	Free.	Free.
Ba. 11224	23,924	30·74	5·58	61·50	1·0844	1·94	·083	·277	84·3	4·3	3,906	7,578	Slight.	Free.	Free.
Ba. 11569	22,356	33·05	7·27	62·00	1·0782	1·78	·104	·256	83·2	5·8	4,257	7,578	Slight.	Free.	Free.
Ba. 12079	24,912	29·35	9·79	61·50	1·0712	1·57	·063	·317	80·5	4·0	3,774	5,925	Slight.	Free.	Free.
B.S.F. 12 (24)	22,008	30·82	4·75	67·50	1·0738	1·61	·057	·353	79·7	3·5	4,340	6,987	Slight.	Free.	Free.

TABLE XLV—VAUCLUSE PLANTATION: ALLEY HOUSE FIELD. 1922—1924.

First Ratoons.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C. / 16·6° C.	Normal Juice. lb. per gallon of Saccharose.	Normal Juice. lb. per gallon of Glucose.	Normal Juice. lb. per gallon of Solids not sugar.	Normal Juice. Quotient of purity.	Normal Juice. Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of *Marasmius sacchari*, Wakker.	Presence of insect pests. *Diaprepes abbreviatus*, Linn.	Presence of insect pests. *Phytalus smithi*, Arrow.
W. Transparent	21,679	14·26	4·46	60·25	1·0800	1·94	·125	·115	89·0	6·4	1,782	3,457	Bad.	Free.	Free.
B.H. 10 (12)	23,651	29 82	1·13	64·50	1·0906	2·20	·096	·174	89·1	4·4	3,950	8,690	Slight.	Free.	Free.
B. 67	17,669	19 05	2·11	67·50	1·0801	2·08	·125	·145	88·5	6·0	2,654	5,520	Slight.	Free.	Free.
B. 6450	21,544	18·83	·42	64·75	1·0809	1 86	·125	·225	84·2	6·7	2,526	4,698	Slight.	Free.	Free.
Ba. 6032	17,420	22·82	1·00	64 00	1·0782	1·85	·114	·176	86·4	6·2	3,035	5,615	Slight.	Free.	Free
Ba. 7924	15,532	15·42	3·27	65·25	1·0800	1·96	·071	·149	89·9	3·6	2,023	3,965	Slight.	Free.	Free.
Ba. 11224	17,653	16·46	1·97	60·00	1·0879	2·23	·066	·094	93·3	3·0	2,034	4,536	Slight.	Free.	Free.
Ba. 11569	26,687	30·73	4·44	62·25	1 0906	2·20	·104	·166	89·1	4·7	3,929	8,644	Slight.	Free.	Free.
Ba. 12079	19,221	17·01	3·32	60·00	1·0826	1 70	·208	·242	75·6	12·2	2,111	3,589	Slight.	Free.	Free.
B S.F. 12 (24)	16,840	18·82	1·38	66·00	1 0800	1·83	·167	·183	88·9	9·1	2,576	4,714	Slight.	Free.	Free.